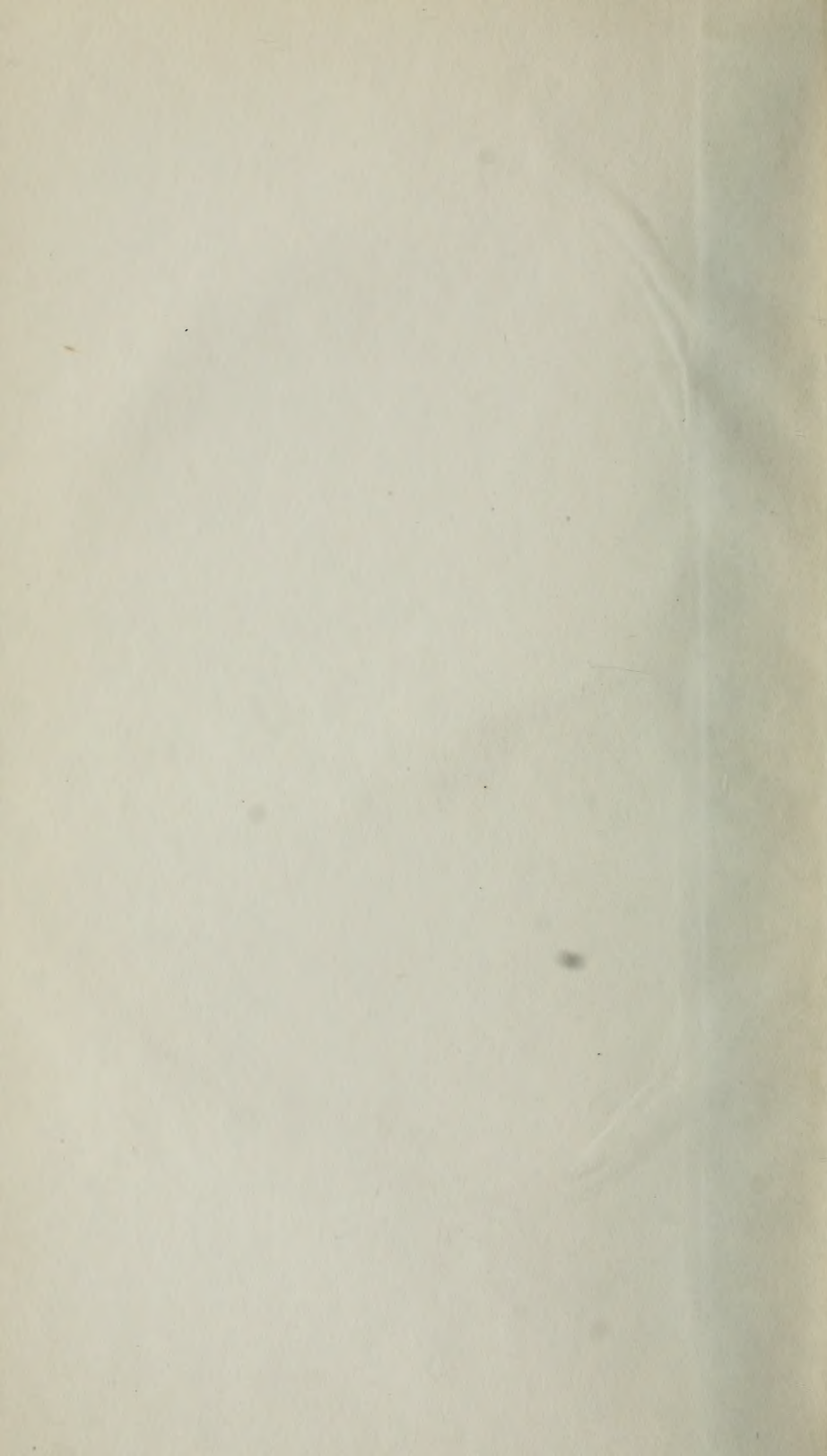

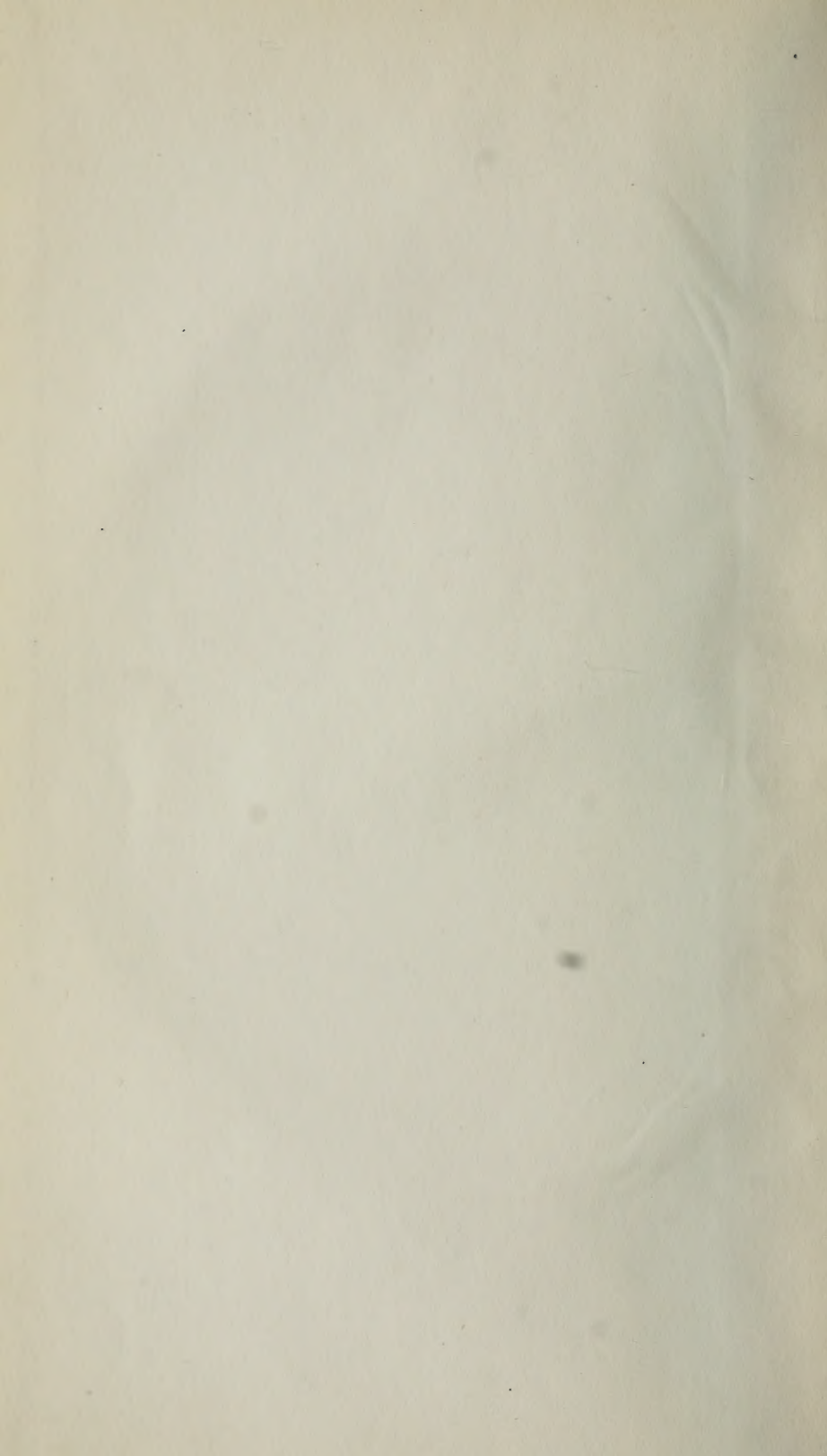


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ART. I.—*Remarks on the Physiological Action of the Interossei Muscles of the Hand, with an Easy Method of strengthening the Fourth Finger of the Pianist.* By WILLIAM R. WHITEHEAD, M. D., New York, Surgeon of the Northern Dispensary; and Physician for Diseases of Women at the Northwestern Dispensary.

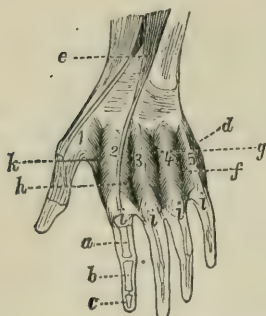
THE physiological action of the interossei muscles of the hand is generally not understood, or is so imperfectly described by anatomists that very few physicians indeed have a correct idea of the complex functions of these little muscles. Those who are familiar with the electro-physiological experiments of Duchenne¹ on these muscles, have not failed to observe important actions, which it was quite natural for anatomists to overlook, but which were reserved for this distinguished electro-physiologist to discover.

The three palmar interossei, which are smaller than the four dorsal interossei muscles, adduct the fingers toward an imaginary line passing through the length of the middle finger.

¹ Arch. Gen. de Méd., 4me série, vol. xxxviii., March, 1852.

It is well known that the dorsal interossei (see Fig. 1.) are abductor muscles and assist the action of the extensor communis digitorum in extending the fingers. Moreover, it is sometimes

Fig. 1.



DORSAL INTEROSSEI MUSCLES OF THE HAND. 3

vaguely mentioned by anatomists that, when the fingers are slightly bent, the interossei muscles aid in the flexion of them. These statements are true, but nothing would be more incorrect, however, than to attribute to the interossei muscles the power of extension and of flexion of the fingers in the feeble manner which is commonly ascribed to them. The same remark may be applied to the lumbricales muscles, which, under certain conditions, are congeners of the interossei, and aid in the flexion and in the extension of the fingers.

It is most generally thought that the extensor communis flexor sublimis and flexor profundus digitorum are the only muscles which produce flexion and extension of the fingers, except, of course, the extensor indicis and the muscles of extension and of flexion which especially belong to the little finger. Pathological facts, relating to the paralysis of some of the muscles of the forearm, aided Duchenne to point out the true physiological action of the interossei muscles. He found, notwithstanding the paralysis of the extensor communis, that the last two phalanges may be extended. He also observed that, when the flexor sublimis and the flexor profundus were paralyzed, flexion of the first phalanges was not prevented. It has been equally well established that, when the common extensor and the superficial and deep flexors are not paralyzed, but

perfectly intact, the power of extension of the last two phalanges may be lost or impaired, and also that the ability to cause flexion of the first phalanges may be similarly affected. From these conditions sometimes result deformities of the fingers and hands. Duchenne has shown that when there is flexion of the wrist on the forearm, and of the fingers in the palm of the hand, the application of electricity to the extensor communis causes, first, extension of the last two phalanges on the first phalanges, then extension of these on the metacarpal bones which are also extended on the forearm. But during this last movement of extension, which rapidly succeeds the two preceding movements, when the metacarpal bones become parallel with the forearm and commence to form an angle with it, then the resistance of the flexor sublimis and flexor profundus overcomes that of the extensor communis, causing flexion of the last two phalanges on the first, making the hand simulate the appearance of an animal's claw. This shows, as he very properly observes, the limited action of the extensor communis on the last two phalanges of the fingers. In order to overcome the resistance of these flexor muscles, the aid of the interossei and lumbricales is required.

He has likewise shown that the voluntary contraction of these muscles, or that induced by a strong Faradic current, is very marked; and that an interesting electro-pathological demonstration of this point may be obtained by the application of electricity directly to the interossei and lumbricales muscles in complete paralysis of one of the upper extremities. In such a case the wrist should be placed in a position of forced extension on the forearm, and the first phalanges should be held extended on the metacarpal bones. Now if a strong current be applied to the extensor muscles, no movement of the last two phalanges will be observed, but, if the electrodes be placed on points corresponding to the interossei and lumbricales muscles, instantly extension of the last two phalanges will occur. The application of electricity also demonstrates that the interossei and lumbricales muscles are more powerful flexors of the first phalanges than the superficial and deep flexors of the fingers, and Duchenne has aptly remarked that these last muscles inefficiently produced flexion of the first phalanges.

The contraction of the interossei and lumbricales muscles in producing flexion of the first phalanges also causes extension of the last two phalanges, and the converse of this equally obtains; that is, extension of the second and third phalanges cannot occur by the contraction of the interossei and lumbricales muscles, without causing at the same time flexion of the first phalanges on the metacarpal bones. These electrophysiological facts, established since several years by Duchenne, I have repeated quite frequently, and they are facile of demonstration. A moderate current of electricity applied to each interosseus muscle separately, by means of a small, properly-shaped electrode, will produce only abduction or adduction, according to the position of the interosseus muscle. A stronger current will cause extension of the third and second phalanges on the first, and during this movement of extension there will be flexion of the first phalanges.

It is evident, that some of the most delicate and important movements of the fingers are executed by the contraction of the interossei muscles, either separately or conjointly with other muscles of the hand. The study of the electrophysiological action of the different muscles of the hand, applied to the fine arts, is exceedingly attractive; but it is only in a very limited manner that I propose to call attention to this subject. While in conversation, a few months ago, with a talented pianist, Mr. Edward Hoffman, author of the well-known piece of music called the "Mocking-bird," I was asked by him why the fourth finger of the pianist was the weakest of the fingers, and also if there was a way to strengthen this finger. Subsequently, after some reflection, I communicated to him a simple method of exercising the fourth finger, which he has tried and found to be entirely effective. The pleasure which Mr. Hoffman has evinced, at overcoming a difficulty which has much perplexed pianists, induces me to call attention to the proper physiological action of the fourth finger in striking the keys of the piano. It has been for a want of a correct knowledge of this action that so many false methods have been advocated, most of them quite empirically. The following is an example of instructions to pupils learning to play the piano:¹ "The fingers should be

¹ Mason and Hoadly's Method for the Pianoforte, p. 6.

spread apart, so as to cover five keys, and should stand in a nearly semicircular row. The fingers should be curved. The precise curve to be employed is very important; for, when they are curved too much, the nails may be heard upon the keys, and freedom of action is impeded; on the other hand, when too straight, they are not easily controlled, and their power is insufficient." In this last sentence I desire to notice only the misconception concerning the physiological action of the muscles that move the fingers in striking the keys.

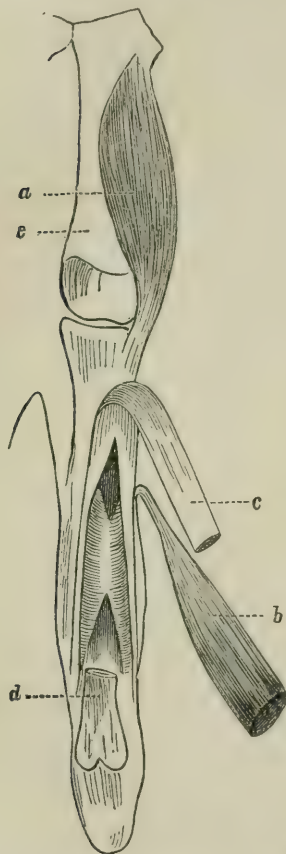
As regards the more or less curving of the fingers, all of them, except the fourth and fifth fingers, possess generally sufficient power to strike the keys of a piano with all the force required, even when much curved. To assert that when the fingers are too straight they are not easily controlled, may be admissible; but to affirm that their power is insufficient, is obviously wrong. The interossei muscles are more powerful flexors of the first phalanges than the superficial and deep flexors; and in the flexion of the first phalanges, as we have already seen, extension of the second and third phalanges, or straightening of the fingers, must necessarily occur.

The second or fore-finger is amply provided for, possessing on the radial side a strong dorsal interosseus, a lumbricalis, a weaker palmar interosseus muscle on the ulnar side, besides a special muscle for extension, the extensor indicis, and a tendon from the extensor communis. The middle or third finger, without a palmar interosseus, has a lumbricalis and two strong dorsal interossei muscles, which last two muscles, when acting with force conjointly, produce a powerful flexion of the first phalanx of this finger. The fifth, or little finger, has only one interosseus muscle, which is a weak and small palmar interosseus. But this finger is specially provided for in the movements of abduction and of flexion.

Comparatively, the fourth finger is anatomically weak, but if properly used it can be quite easily strengthened, so as to acquire, in a short time, all the force required for the proper exercise of this finger on the piano. The fourth finger has a lumbricalis and a weak palmar interosseus on its radial side (see Fig. 2), and a strong dorsal interosseus muscle on its ulnar side. It is by the voluntary or induced contraction, by electrical irrita-

tion of this dorsal interosseus muscle, that quite a powerful flexion of the fourth finger may be produced. In order to illustrate this, it is only necessary to hold the other fingers stiffly and to bend with force from the knuckle-joint the first phalanx toward the palm of the hand, at the same time keeping the second and

FIG. 2.



a, second palmar interosseus muscle; *b*, third lumbricalis; *c*, one of the four tendons of the superficial flexor muscle of the fingers, cut and turned down. This tendon is inserted into the sides of the second phalanx, and has been dissected so as to show its grooved slit for the passage of the third tendon of the deep flexor muscle. *d*, third tendon of the deep flexor muscle cut off near its insertion into the third phalanx; *e*, fourth metacarpal bone.

PALMAR SURFACE OF THE FOURTH FINGER OF THE LEFT HAND.

third phalanges of this finger extended. The proof that this action can occur independently of the concurrent contraction of other muscles, as the third lumbricalis and the second palmar interosseus, which also produce flexion of the first phalanx, and extension of the last two phalanges, is readily obtained by pass-

ing a strong induced current of electricity through the fourth dorsal interosseus muscle, on application of one electrode to the middle of the space between the fourth and fifth metacarpal bones, and on the back of the hand.

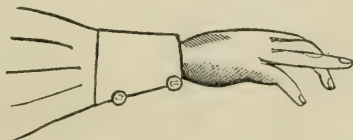
Fig. 3 (copied from Duchenne)¹ shows the insertion of the

FIG. 3.



fourth dorsal interosseus muscle of the left hand, near the base of the first phalanx, and the conjoining of its tendon with that of the extensor communis, and explains why a moderate contraction produces only abduction, and why extension of the last two phalanges occurs, when this muscle contracts powerfully enough to produce flexion of the first phalanx. It is only in this manner that the full physiological force of the fourth finger can be exerted while the other fingers are retained on the keys of the piano. " If the fourth finger in being elevated is curved, it is done at a disadvantage, and must be extended, as I have represented at Fig. 4, before the full con-

FIG. 4.



tractile force of the fourth dorsal interosseus can be produced. *The palmar interosseus and lumbricalis of this finger assist the*

¹ De l'Électrisation localisée, et de son application à la Physiologie et à la Thérapeutique. Paris, 1855.

action of this muscle. Consequently the proper method for the exercise on the piano of the fourth finger, so as to develop its full power in striking the keys, is to gently extend the middle and last joints of this finger as it is elevated, which extension permits, during flexion of the first phalanx or bone of the finger nearest the knuckle joint, the fourth finger to descend with force on the key. There are numerous pathological conditions which influence the action of the interossei muscles, such as writers' palsy, and some other affections. In a case of paralysis from lead, under my care a few months ago, the interossei muscles were all so much atrophied that the depressions between the metacarpal bones were much more marked than is usually seen. But the following case is especially interesting on account of its relation to the fourth finger: On the 2d of August last, John S., a large, muscular Irishman, aged twenty-nine, and a machinist by occupation, came to the Northern Dispensary for an injury to the hand. He had the mark of a small penetrating wound on the palmar surface of the fifth metacarpal space, and which he said was caused a few weeks before by a sharp piece of iron. There was paralysis of the fourth finger, the other fingers being intact. Applications of a strong Faradaic current were made to the dorsal interosseus muscle of the fourth finger, with the effect of causing flexion of the first phalanx of this finger on its metacarpal bone, at the same time producing extension of the last two phalanges. After two or three applications on different days, there was an improvement, when unfortunately I lost sight of him.

Weakness or stiffness of the fourth finger may be due to pathological causes which require appropriate treatment. It has been my object, however, in this article, to confine my remarks to the physiological action of the interossei muscles.

ART. II.—*A New Combination and its Specific Action in Certain Important Diseases.* By F. P. MANN, M. D., Brooklyn.

BEFORE submitting the formula, and specifying the particular class of diseases in which this combination produces re-

markable results, I desire to state that its therapeutic action is directed specifically to the liver; that its operation upon that viscus will be found far more certain and satisfactory than any of the preparations of hydrargyrum. And here permit me to allude briefly to the function of this most important gland, more especially because I wish to offer a few suggestions in regard to the chemical characteristics of the peculiar secretion which it is the duty of the liver to eliminate. The first office performed by this great filterer is the separation of the nitrogenized principles of the portal blood, which are then returned into the general circulation through the hepatic veins and vena cava. The result is, there is returned from the lobules, through the lobular biliary plexus, thence through the ductus communis to the duodenum, a sulphuretted hydro-carbon, still containing so much nitrogen as to form a very unstable product, prone to even spontaneous decomposition; this is bile. Brande, Demarçay, and other eminent authorities, have shown satisfactorily that the ancient chemists were correct in regarding bile as a saponaceous compound, in which an organic acid was combined with soda, though their successors have represented it under a much more complex aspect; that it is, in fact, a soda soap, which may be decomposed and recomposed; that other substances normally present in it are only small and in variable quantity, and that it is essentially an alkaline fluid. When bile is evaporated to dryness, it leaves a solid residue, composed chiefly of choleate of soda, fatty matter, and mucus. Choleate of soda is a compound of choleic acid and soda. Choleic acid is an amorphous gum-like substance, somewhat deliquescent, with a bitter taste, and acid reaction. Now, what I wish briefly to suggest is, that this choleic acid is capable of being displaced by either hydrochloric or lactic acid; the latter, though the natural acid of the stomach, is replaced by the former; the chloride of sodium taken with the food, and also contained in the secretions from the mucous membrane. Chyme, as it passes from the stomach into the duodenum, is of semi-fluid consistence, sharp odor, and slightly acid reaction. About the height of the orifice of the choledochus and pancreatic duct, in fact, after mingling with the bile and pancreatic juice, its character changes; it becomes, or should become,

alkaline. The importance of this chemical change will at once be appreciated when it is remembered that chyle is essentially an alkaline fluid, and cannot be formed out of acid chyme, except through the interposition of an alkali. Therefore, whenever, from any cause, an undue quantity of acid finds its way into the duodenum, the inevitable result will be a decomposition of the biliary secretion. The hydrochloric acid will displace the choleic, and, uniting with the soda, will form a chloride of that salt, while the choleic acid will be set free. The peculiar gummy appearance so often observed in the intestinal discharges during the progress of diarrhœa is probably produced in this way. Now, when we remember that while the small intestines absorb all matters soluble in water, and capable of endosmosis, convert starch into sugar, in conjunction with the saliva and pancreatic juice, dissolve albumen and convert it into peptone in conjunction with the stomach, in the digestion of fat they receive *no assistance*, except from the saponaceous qualities of alkaline bile; how important it is that this secretion should preserve its normal condition; and it is but natural to suppose that its continued decomposition would eventually result in the mechanical obstruction of the duct which conveys it to the bowel. Is not this, in fact, just what occurs in cholera, cholera morbus, and cholera infantum? To restore the suspended secretion, a remedy must be administered that will not only recompose, but prevent a further decomposition of the fluid in question, and at the same time stimulate the gland to renewed action.

It is impossible to present in an article like the present even a *coup-d'œil* of all the departures from health, directly or indirectly depending upon a perversion or interruption of the biliary secretion, and the important chemical changes necessarily induced by its suspension. We pass therefore at once to the consideration of the cases in which the specific power of our combination will be put to a severe and infallible test. Cholera, cholera morbus, cholera infantum, the form of diarrhœa so prevalent among children during the summer months, and dysentery, these stand out sharply defined, and as it were in *bass-relief*, from all other forms of disease, because here the physician is imperatively called on to reëstablish the partially

or entirely suspended flow of healthy bile within a given time, or his patient must die. In the first of the above diseases a few hours at most comprises the limited period in which this essential change can be effected; in all, time is inestimably precious. The formula is as follows:

R Aloes Socotrine, pulv.

Potass. sulph., pulv.

Sodæ bicarb., aa ʒ i.

Caryoph., 3 ss.

M. Div. in pulv. xii.

The soda, besides its value as an alkali, assists in the perfect solution of the aloesin of the aloes by the boiling water, of which three tablespoonfuls are to be added to each powder just before administering; and upon the addition of which, a portion of the carbonic acid of the soda will be given off as carbonic-acid gas, causing a brisk effervescence. The sulphate of potassa remains unchanged, but in *perfect solution and intimate association* with the active principle of the aloes, and herein lies the capacity for rapidly entering into the circulation so eminently possessed by this simple combination, and hence its dynamic influence over the organs of absorption and digestion. The aromatic covers the bitter taste, and furnishes a gentle stimulus. In cholera and cholera morbus, one powder is to be given dissolved as above, and swallowed at as *high a temperature* as it can conveniently be taken; should this be rejected by vomiting (which is very rarely the case), another is to be administered in fifteen minutes. Where excessive irritability of the stomach exists, mustard to the epigastrium will enable the medicine to be retained, and a marked effect will be produced upon the symptoms, as a general rule, in less than *thirty minutes*. The powder should be repeated every hour until the rice-water discharges cease, and bile of a bright-yellow color appears in the dejections. Now this yellow tint, so refreshing to the eye of the medical attendant, and so assuring to the patient, is significant; it tells its own story. Normal alkaline bile, when ushered into the duodenum, parts with all of its available nitrogen, and, mingling with the organic matters in transit, absorbs from these a certain quantity of oxygen which gives the yellow color to healthy fæces. When, how-

ever, bile is decomposed by the acid contents of the bowel, it is converted into an acrid irritating fluid, incapable of absorbing oxygen, and pursuing with rapid strides the downward path to disorganization and death.

But to return, warmth to the feet and limbs should be employed; and to slake the urgent thirst, small quantities of *hot* ordinary tea without milk or sugar, or ginger tea, may be taken at short intervals. *No ice, no cold drink of any kind.* We must *furnish* heat in cases of this kind, not *abstract* it. No alcoholic stimulus of any sort should be allowed until the liver has acted; after which, any tendency to too frequent movement of the bowels, may be easily controlled by an ordinary vegetable astringent with a warm aromatic added; for this purpose the following will be found both convenient and agreeable: Pulv. caryoph. et cinnamomi āā, two teaspoonfuls, boiling water four ounces, steeped for half an hour; of the decanted decoction, half an ounce may be given to an adult after every dejection until the desired limit is obtained. In cholera infantum, one powder is to be dissolved as before, and one teaspoonful of the solution given, *warm as possible*, every half hour, to a child under one year, and double this quantity over that age up to three years, until the desired change is produced; the aromatic decoction can be given in teaspoonful doses subsequently, and the same general directions complied with. Chronic diarrhœa, or summer complaint in children, is to be treated with similar doses according to the age of the patient, and the urgency of the symptoms; but here the remedy should be given after every dejection, until the color of these is changed to the normal yellow, when their frequency can be controlled as above. There is another point in the treatment of diarrhœa in children to which I desire to call attention; it is the employment of the bougie camphré, or camphorated bougie; this will be found a very important aid in promptly relieving tenesmus and the intense irritation of the rectum which is so apt to accompany this disease. The formula for preparing these will be given below. In dysentery, one powder given every three or four hours, will speedily change the characteristic bloody and mucous discharges for those composed of fecal matter. The aloes in this combination *does not act on the bowels*

except through the liver; hence it produces no pain or disturbance in the colon or rectum. Two indications plainly present themselves in the treatment of dysentery: first, to reëstablish the suspended or inconstant flow of bile, and by this means to keep up the peristaltic movement of the small intestines, thus enabling the stomach to digest the necessary food and furnish wholesome nourishment for the system; second, to allay the extreme irritation of the colon. For the first we claim that we have a specific; for the latter, the camphorated bougie, alternated occasionally with an opiate enema, will, in a vast majority of cases, give speedy relief. Counter-irritation with mustard and flax-seed is a common and useful assistant. As an ordinary alterative, where the action of the liver is merely sluggish, this combination can be varied, and if desirable made into pills as follows:

R. Aloes Socotrine pulv.
Potass. sulph.
Sodæ bicarb., ãã, 3 iss.
Capsici, gr. x.
Div. in pil. xxiv. Take two or three.

To increase the cathartic effect, a quarter of a grain of ext. podophyllin may be added to each pill. The bougie camphré may be easily prepared as follows: Two ounces of olive-oil are to be saturated with camphor by the aid of gentle heat; sufficient beeswax (white or yellow) is then melted in, to produce a mixture which when cold will harden so as to retain its shape, and admit of being introduced into the rectum, when taken out from the moulds, which are easily prepared as follows: Around a common lead-pencil wrap two or three thicknesses of stiff writing-paper about two inches in width; fasten this with a string; slip out the pencil, and pinch up one end, folding it so as to close it firmly (a dozen of these can be made in a few minutes); now stand them up in a bowl of sand, and fill them with the prepared oil; when cool, they should be placed for a few minutes in ice-water before using; remove the paper carefully and introduce the flattened end; they should be pushed *well up into the rectum*, where they dissolve slowly; the vapor of the camphor can often be felt by its warmth as high up in the bowel as the sigmoid flexure. Before adminis-

tering the combination here recommended, I advise the exhibition of bicarb. potass. ʒj. suitably diluted, and given a few moments before the powder; this will prevent the decomposition of the soda used in the formula, and should not be omitted in the commencement of the treatment of the diseases already designated. In conclusion, I would remark that whether the views here expressed in regard to the part which an invading acid may play in cholera, cholera morbus, etc., be accepted or not, we know that these diseases are at least accompanied by a suspended or irregular flow of bile, and that upon its normal reappearance depends the safety of the patient.

Translation.

The Utricular Glands of the Uterus; and the Glandular Organ of New Formation which is developed during Pregnancy in the Uterus of Mammiferous Females, and of the Human Species. By Professor G. ERCOLANI, of Bologna. Translated and condensed from Robin's *Journal de l'Anatomie et de la Physiologie* for September and October, 1868, by Charles P. Russell, M. D.

THE author expects to prove in his treatise that the nutrition of the foetus of mammifera takes place in the uterus by means of a fluid secreted by a *glandular organ of new formation*, which belongs to the mother, and constitutes the maternal portion of the placenta. The foetal portion of the placenta is formed by the villi of the chorion which directly absorb the product of the glandular organ and transport it directly to the foetus. The author has studied this anatomical fact in a great number of mammifera whose placentæ present different forms, and he finally describes the structure of the human placenta.

The author demonstrates as erroneous the opinion of several modern anatomists, who maintain that the utricular glands or follicles of the mucous membrane of the body of the uterus, in certain animals, take part in the formation of the placenta.

This treatise may be divided into two distinct parts. The first treats of the utricular glands of the mucous membrane of the body of the uterus. The second discusses the new glandu-

lar organ which is developed during pregnancy, and constitutes, as has been said above, the maternal portion of the placenta.

PART I. In the first part he treats in the beginning of the history of the discovery of the utricular glands from the time of Malpighi, to that of the brothers Weber and Baer, and after having drawn attention to the doctrines of Burkhardt, of Eschricht, of Leydig, Coste, Bakow, and Myddleton, upon the uterine glands of the human species, and of several animals, he relates the observations of Sharpey received by Bischoff and Weber, who think that some of the villi of the chorion, at least in the dog, enter into the first portions of the utricular glands to form the placenta. After the opinion of Sharpey, the author cites that of Gurtt, who affirms that in the mare all the villi of the chorion penetrate into the interior of the utricular glands; and that of Bischoff, and more particularly of Spiegelberg, who think that the cotyledons of the uterus in the ruminantia are only expansions or dilatations of the same glands.

The insufficiency of all these doctrines is proved in the second part of the treatise which the author devotes particularly to the placenta.

Finally, the author gives the structure of the uterine glands of the mare, cow, bitch, cat, porcupine, and the woman. He shows the difference which they present in the states of pregnancy and uterine vacuity, and that these glands are entirely wanting in the females of certain animals, as the rat, the rabbit, etc. The comparative inquiries upon utricular glands conduct the author to the study also of the differences which are found in the uterine mucous membrane.

The new facts described in this first portion of the treatise, and the consequences which arise from them, may be summed up in the following conclusions:

The mucous membrane of the uterus of the woman, and of certain animals, such as the mare, is represented by simple epithelial layers.

The minute and very contracted inflexions of the epithelial layer in certain animals (the rabbit) as well as the elevations of the conjunctive sub-epithelial tissue with their many inflex-

ions which form numerous folds upon the internal surface of the uterine mucous membrane (the rat, the dog), are not sufficient to establish the real differences between the uterine mucous membrane of the mammifera and that of the woman, and less still to sustain the admission made by anatomists, that the uterus of the woman is deprived of mucous membrane.

The utricular glands of the uterus are ordinarily very numerous, and open into the epithelial layer of the mucous membrane, either so that they cannot be separated in any manner from the tissue of the womb, as in the woman, or that they form a peculiar membrane which remains raised, and simply disposed in folds more or less elevated, or with several excavations like festoons in the same folds (the mare, the cat, the bitch). These large folds, with their numerous excavations like festoons of the uterine mucous membrane, represent enormous glandular follicles, and sometimes take the place of uterine glands. This in effect is observed in animals destitute of utricular glands. Some very distinguished anatomists have been unable to find them in the rat; the author is certain that they are wanting in the rabbit. The absence of utricular glands in the womb of some animals which have no placenta, is a fact sufficiently important, because it weakens the opinion of those who think that these glands contribute to the formation of the placenta of animals in whom it is single.

The uterine glands of those animals in which they have been studied, present remarkable differences, either in their form, or in the sort of epithelium which lines their cavity. In the mare they are formed by a uniform canal, bent spirally upon itself. In the cow the duct of these glands presents irregular prolongations which have the shape of a sac, or of bulging appendices. In the bitch these appendices are still more prominent, and they are not absent from any glands, which has caused them to be termed ramous. In the cat these glands are pyriform, and only in those best developed, or the largest, are observed the sinuous swellings in their last portion. In the porcupine they resemble a human sudoriferous gland. Their internal epithelium is pavement in the bitch and cat. It is cylindrical, on the contrary, in the mare and the cow.

According to the observations of Sharpey and Weber, it

has been admitted as a well-demonstrated fact that in the womb of some animals (dog and cat) there exist two kinds of uterine glands which, according to their form and size, have been named either simple or ramous. The author proves, in his treatise, that these two sorts of glands do not exist in the womb of the bitch; and that in the cat these same glands may vary considerably in volume among themselves. For the rest the utricular glands of the womb of all the other lower animals, and of the woman, this difference of volume is found less marked than in the cat. According to these observations we must abandon the opinion of anatomists and physiologists who think that these two species of glands formerly admitted, are charged with a double and very different function, that is to say, that the simple glands secrete the mucus of the uterus, and the ramous glands enter into the formation of the placenta.

However, the author demonstrates that two distinct varieties of uterine glands actually exist in the cow and in the sheep; the utricular or ramous, somewhat variable in volume, but always well developed, and of which Malpighi had already spoken; and the simple glands, which no one previous to the author had ever described, always very minute, which result from the very close and sinuous inflexions of the epithelial surface of the mucous membrane. Even these minute glands, which, in order to distinguish them from the former, the author calls follicles, offer relative differences in size and length when compared with each other. They are found disseminated over the whole internal surface of the uterus, and constantly aggregated in the places corresponding to the cotyledons. In the condition of uterine vacuity, the cotyledons are covered with a fine, smooth, and compact layer of epithelium which represents the most simple epithelial form of uterine mucous membrane, as in the woman.

In the rabbit, instead of utricular glands, there exist upon the uterine mucous membrane, which is represented by simple epithelial layers, short and numerous inflexions which constitute a sort of simple glandular follicles.

In all animals deficient in uterine glands, and in the woman also, they augment in volume during pregnancy. In

the cow the glandular follicles which the author has called simple, increase in size at the same time.

The development of glandular follicles in the womb of the rabbit during pregnancy is very notable, and in this animal this increase of volume has a still greater significance and importance. In the places where the eggs are arrested after fecundation, the follicles, after a notable augmentation, are changed into the *glandular organ*, that is to say, into the maternal portion of the placenta.

The augmentation of follicles in those portions of the uterine cornua remaining empty produces an elevation of the mucous membrane in the form of large and very complicated folds, representing enormous follicles, calculated during pregnancy to fulfil the functions of utricular glands, which, as has been said, are wanting in rabbits.

In the case where the placenta is villous, or expanded (in the mare, for example), even after the *glandular organ* or maternal placenta is already formed, all the utricular glands pour their secreted fluid directly into the space comprised between the chorion and the womb. The uterine surface of the chorion of the mare is lined with an epithelial layer, which covers also the villous tufts of the chorion, and is continuous with the epithelium which covers the villi themselves. The epithelial layer of the chorion may, in the mare, represent the uterine decidua.

When the placenta is multiple, as in the ruminantia, and more particularly the cow, the fluid of the utricular glands which correspond to the cotyledons, spreads likewise between the chorion and womb.

The epithelial layer which constitutes the decidua in these animals is still more remarkable than in the mare. The utricular glands, termed elementary in the empty uterus, which exist in the cotyledons, as well as the simple glandular follicles which we have shown, are aggregated in these portions of the uterus, open very probably into the base of the caliciform elevations which constitute the glandular portion of new formation in the cotyledons of the gravid uterus. The very limited number of utricular glands in this region, the tenuity of the simple follicles, and still more the thickening which the

walls of the glands experience, and the transparency which their internal epithelium acquires, have prevented observing with precision and certainty the point of outlet within the interior of the glandular organ of the glands and follicles which may clearly be seen extending into the peduncle of the cotyledon upon transverse section; they are seen badly and incompletely in vertical sections, the more so as they are made farther from the surface of the peduncle from which the glandular organ is derived and projected.

When the placenta is single, and there exist utricular glands, as in the carnivora, those which correspond to the place where the placenta is formed, open into the inferior portion, or *cul-de-sac*, of the glandular follicles of new formation, which are nothing else than the festooned folds of the uterine mucous membrane changed into the *glandular organ*. In the rest of the uterus also of these animals the fluid which the utricular glands secrete spreads between the uterus and the chorion.

The deciduous membrane in the woman, as well as the decidua termed catamenial or menstrual, is nothing else than a product furnished by the utricular glands. The decidua cannot be regarded on that account as an enlargement of the uterine mucous membrane, and still less an enlargement which would result from the extremities of these glands, from the conjunctive tissue and the vessels which surround them, as Weber and Bischoff think.

The numerous openings or holes which give to the uterine decidua of the woman the appearance of a sieve, are only points which correspond to the outlet of the utricular glands in the interior of the uterus, which properly remain open on account of the product secreted by them, by which they are constantly traversed.

In the cow also the uterine decidua exists, notwithstanding its existence has been denied, as in the mare, on account of its extreme tenuity. The decidua in this case has the same origin as in the human race; but while in those animals, and especially in the cow, it is perfectly visible, it is not only very thin, but is connected with the chorion and not with the womb,

as is seen in the woman; and the numerous holes which are found in the latter are not visible in it.

In the decidua of the cow, in place of the holes just mentioned, there is at the points which correspond to the openings of the utricular glands a thickening of the several elements secreted by them, and which infiltrate the cells of the decidua, and also penetrate into the conjunctive tissue of the chorion. These thickened materials have been named by Burkhardt little scales (*petites écailles*) of the chorion, whose origin and significance, however, he has failed to mention. What is very important is that, by opposite effects in the woman and in the cow, the much-controverted origin and structure of the decidua remain perfectly clear.

The observations of which we have thus far spoken, confirm the fact that, whatever be the form of the placenta in the lower animals, the villi of the chorion never penetrate into the utricular glands of the womb, as several anatomists have affirmed.

The augmentation in volume of the utricular glands during pregnancy is constant, whether in the human species or in different animals, which places beyond doubt the fact that they must fulfil an important function for the nutrition of the foetus. The author, however, confines himself to the very reasonable notion that their function consists in furnishing materials for the nutrition of the foetus, previous to the development of the *new glandular organ* or maternal portion of the placenta, with which the villi of the chorion grow into communication when they become vascular. The author adds, besides, that although he has demonstrated that the secretion of the utricular glands does not always mingle with that separated by the maternal portion of the placenta, as happens in the carnivora, yet this fact, so clear in certain animals, permits us to reasonably suppose that these glands elaborate some nutritive element important to the foetus during the period of gestation. This may particularly be suspected when we call to mind the great number of these glands, their constant augmentation in volume during pregnancy, the truly remarkable amount of liquid which they secrete, and which in certain animals (such as the mare) collects between the chorion and

womb—and finally, when we take into consideration that the mucous membrane of the uterus increases very considerably in volume, and forms elevated and complicated folds, which represent gigantic glandular follicles in the womb of animals which, like the rabbit, have no utricular glands.

PART 2.—In the second portion of his treatise, the author treats of the *new glandular organ*, which is developed during pregnancy in the uterus of mammiferous females, and in that of the human species, and which in all constitutes the maternal portion of the placenta. Among the animals with a villous and extended placenta, the author has examined that of the solipeds, and described that of the mare. Among those having the multiple placenta, he has chosen among the ruminants that of the cow, because it has seemed to him the most simple. Among the animals having a single placenta he has studied its formation in the rabbit, and he describes it when entirely formed in the bitch and cat. Finally, he describes the human placenta and the differences which exist between it and that of the brutes.

The idea that the placenta secretes a peculiar fluid or uterine milk for the nutrition of the foetus was broached by several old anatomists and physiologists; and the author mentions it very particularly in his historical researches upon the structure of the different forms and functions of the placenta in the lower animals; he calls to mind also that M. Cl. Bernard had discovered that in the single placenta of animals exist glycogenic cells. However, we confine our *résumé* to the anatomical observations and facts which the author describes, and which, according to him, give a positive value to the old doctrine whose importance has been ignored by modern observers.

The author declares that the final conclusion to which his numerous researches have led him is, that, during pregnancy, there is formed in the uterus of mammifera and the woman, a *new glandular organ* (maternal portion of the placenta), with which a connection is made by the villi of the chorion forming the foetal portion of the placenta. The villi of the chorion penetrate the cavities of the glandular organ, to absorb from it the fluid secreted in it, and thus convey to the foetus the

materials necessary to its nutrition. For the sake of greater clearness, the author reduces the physiological idea enunciated to elementary anatomical forms: he shows that the typical form of the new secretory organ is that of a *simple glandular follicle*, and that the vascular or absorbent foetal portion of the placenta is that of a vascular projection or villus, which is found represented by four schematic figures, vertical sections of the uterus and of the placenta, according as it is villous, multiple, or single, in the lower animals and the woman.* The most simple type that can be obtained of the double structure of the placenta is that which is afforded us in the villous placenta. From the chorion spring vascular tufts and villi, the foetal portion of the placenta, which enter the simple glandular follicles—maternal placenta—of which there are no traces in the empty uterus. A wide line indicates the wall of the uterus.

In the cotyledons of the cow the glandular organ becomes complicated, but does not lose its elementary form of simple follicle. That which does change is the relation of proximity and the position of the follicles, which are not found as in the preceding case vertical to the uterine surface, but parallel to it; and they are not superimposed upon one another in the place where the placenta are formed. The relations of the villi and follicles do not alter.

When the placenta is single (carnivora, dog, cat), the typical form of the glandular follicle does not disappear, but instead of repeating itself by preserving its most simple form, as in the cow, the glandular follicle elongates enormously like a tubular gland, and becomes remarkably sinuous. Although in these cases the chorion adheres to the foetal surface of the placenta, we may see there the openings of the follicles by which the villi of the chorion enter, as well as the *cul-de-sac* of the follicles which are seen toward the uterine surface of the placenta.

It is in the human species that the structure of the glandular organ deviates further from the typical form of the simple glandular follicle. In the woman the fundamental portions of these organs remain—that is to say, the walls and the cells (secretory organ and secretion), but that which pertains to

the form of the follicle is completely lost. In the woman, contrary to what is observed in the lower animals, the surface of the uterus which is in contact with the placenta is covered with a peculiar membrane known under the name of decidua serotina. This membrane, which is produced by the evolution of the submucous conjunctive tissue of the uterus, is the stroma from which springs the glandular organ which embraces and covers the villi of the foetal placenta in all their numerous subdivisions. The glandular organ follows the villi as far as the chorion, and in here supplying its walls with fibrous tissue it firmly fixes the vessels which form the umbilical cord.

Conclusions.—After these ideas and general views, the author studies minutely the above facts in the different species of animals described, and sums up all his observations in the following conclusions :

In the womb of all mammiferous animals, as in that of the woman, during pregnancy, there is formed a new organ termed glandular, in the cavities of which the villi of the chorion always enter. The placenta in all cases results from a conjunction of two portions entirely distinct in their anatomical structure and in their function : the foetal portion, vascular—absorbent—and the maternal portion, *glandular* and secretory.

If the blood of the mother carries in all cases elements for the formation and secretion of the new glandular organ, the vessels of the mother never intersect and come into immediate contact with those of the foetal placenta ; in other words, the villi of the foetal placenta are always in contact with and bathed in the fluid which is separated by the newly-formed glandular organ. After this the doctrine universally received by physiologists, that the nutrition of the foetus takes place by an endosmotic and exosmotic exchange of materials between the vessels of the mother and those of the foetus, falls to the ground in face of this author's observations. In the first period of extra-uterine existence infants are nourished with maternal milk by means of absorption carried on by the intestinal villi ; in the same manner, during intra-uterine life the foetus is nourished by means of a fluid or uterine milk secreted by a glandular organ, and absorbed by the villi of the chorion.

The *new glandular organ*, or maternal portion of the

placenta, is developed at different periods of gestation in different species of animals. It forms over the whole internal surface of the uterus in those cases in which the placenta is expanded, as in the solipeds; in several limited points of the uterus (cotyledons) when the placentæ are multiple (ruminantia); and finally, only in the spot where the ovum is arrested, when the placenta is single (rodentia, carnivora, and human species).

The form of the new glandular organ, or maternal portion of the placenta, is modified in its development according to the different forms of placenta, but it does not alter from the most simple type of glandular organs in the organism of adult animals. Briefly, in the lower animals it always preserves the simple form of an open glandular follicle. The typical form of glandular organs is wanting in our own species.

The anatomical cause of the differences between the lower animals and our own species consists in this: that in the former the new glandular organ is formed by a modification or transformation of the preëxisting uterine mucous membrane; while in the woman this portion of the placenta is formed by stroma which is itself of new formation, and is elaborated by the conjunctive tissue of the internal surface of the uterus. This stroma is known to anatomists under the name of decidua serotina, which is absent in the lower animals for the reason we have specified.

The most simple form of the glandular organ is that found in the villous placenta. Before describing it in the mare, the author sums up the opinions entertained since the time of Ruini, who described the surface of the uterus in this animal as covered with red flesh (*carnaccia rossa*), up to that of modern anatomists who unite in affirming this mucous membrane to be thickened, tumefied, and showing numerous excavations. The author demonstrates that this tumefaction consists in a real neoformation upon the whole internal surface of the uterus; of a compact layer of *glandular* follicles of which there is no trace in the mucous membrane of the uterus in its state of vacuity.

Pregnancy at Term.—It is perceived that the glandular organ springs from the subepithelial or mucous connective tissue, and that it forms simple glandular follicles of which

only some have a double or even a triple *cul-de-sac*, which may be demonstrated in a vertical section of the glandular organ slightly magnified.

The follicles are from $1\frac{1}{2}$ millim. to 2 millim. in height; their diameter is variable because of their being pyriform. Beneath their aperture, which is funnel-like, it is $\frac{3}{100}$ millim.; from $\frac{4}{100}$ to $\frac{5}{100}$ toward the middle, and from $\frac{8}{100}$ to $\frac{12}{100}$ at their base. The wall of each follicle is surrounded externally by the connective tissue of the uterine mucous membrane, whose substance is pierced by vessels that rise and invest the follicles with their meshes.

The internal surface of the follicles is completely covered with a pavement epithelium. Each villus of the chorion penetrates one of these follicles.

Uterine Cotyledons of the Ruminantia.—The author gives an historical analysis of the various doctrines upon the structure and function of the uterine cotyledons, and finally he sets forth the results of his own observations. He demonstrates that the peduncles of the cotyledons of the gravid uterus are only its old and ever-existing portion, that is to say, the cotyledons of the empty womb, and that the most notable part which forms upon them during pregnancy is the glandular organ, that is to say, the maternal portion of the placenta, which after delivery gradually disappears completely. With the assistance of vertical sections of the cotyledon and its peduncle in the gravid uterus, there can be perceived only the element of the surface of the empty uterus, smooth, covered with compact epithelium in the cotyledons of long pyramids attached by connective tissue which form a collection of calices upon the internal surface, from which spring lamellæ of conjunctive tissue nearly parallel to the axis of the cotyledon, which form glandular follicles superimposed upon one another, and which all open into the internal cavity of the calix. These cavities correspond to the external openings of the cotyledons through which the vessels of the chorion penetrate, from which spring the villi that go to meet the follicles.

In vertical sections even the proper configuration of some follicles may be preserved.

It remains to see how and by what histogenic process is

developed the new or glandular portion of the cotyledons, as well as the precise period of gestation at which the glandular follicles begin to form in the gravid uterus of the solipeds. The observations made by the author upon the rodentia (rabbit), as well as those made upon the carnivora (dog), convey a suspicion of the process by means of which the maternal placenta in the mare and in the cow forms and decays.

On the Single Placenta.—The historical researches which precede the study of the single placenta in the lower animals and the woman, and the observations made by the author, have brought him to this important conclusion: that the type upon which is formed the glandular organ, or maternal placenta, is different in animals and the human species.

He asks himself whether the placenta of apes is formed upon the same type as that of man, or if it belongs to the type of the other mammifera. The lack of wombs from pregnant apes has not allowed him to answer this important question. Thus confining his studies to the single placenta of rabbits, of bitches, and cats, he has demonstrated that the maternal placenta has the same form in all these animals, as well as that the uterus of rabbits is deficient in utricular glands, which are well developed in the others—and, notwithstanding that in rabbits the first fact for the formation of the glandular organ may be the enlargement of mucous follicles—follicles which on the contrary are wanting in the uterine mucous membrane of dogs and cats, in which the maternal placenta begins to form by the elevation of folds of mucous membrane and by their becoming festooned.¹ However, in the two cases the completion of the true glandular follicles which constitute the maternal portion of the placenta, depends upon a neoformation of uterine connective tissue between the mucous follicles in the rabbit, or in festoons of the folds of mucous membrane in the bitch.

Notwithstanding that, the glandular follicles of single placentæ do not lose the form proper to the fundamental type of the ordinary simple follicle.

¹See Ch. Robin "On the Uterine Mucous Membrane during and after Pregnancy." Mémoires of the Academy of Medicine. Paris, 1861—and Journal of Physiology, 1861.

The modifications which are observed relate entirely to the size and sinuous course of the follicles, as well as to the numerous communications which exist between them (the bitch). The base of each follicle remains always perfectly distinct on the uterine side of the placenta, as their apertures are distinctly toward the foetal surface. The villi of the chorion which constitute the foetal portion of the placenta penetrate by the said openings into the interior of the sinuous follicles. Only when the placenta is single the chorion adheres to its foetal surface.

Reconciling now the differences just described according to different forms of placenta with the differences found in the mucous membrane of the uterus, the author is inclined to conclude that they correspond with each other; it is thus that the minute and aggregated hollows or mucous follicles observed in the uterine mucous membrane of the rabbit are represented by the structure of the maternal placenta in the mare, whose uterine mucous membrane offers no trace of these follicles; it is thus that the very prominent folds of the uterine mucous membrane of the rat, dog, and cat, are represented in a more complex manner by the cotyledons of the gravid uterus in the cow. On the other hand, the long and sinuous follicles described in the foetal placenta of the bitch and cat represent only a remarkable development of the follicles and folds of uterine mucous membrane in the rodentia and carnivora. It seems, then, demonstrated that the uterine mucous membrane always represents histologically the *glandular organ*.

Maternal Placenta.—The formative process which regulates the development of the maternal placenta is as unique as the end attained by the process we have just described; it is only the mode which varies in different species of placentas. However, there is never merely a simple replenishment or reduplication of a preëxisting glandular form; but, on the contrary, there is always a neoformation of conjunctive tissue, vessels, and well-determined forms of true glandular organs; so that one is obliged to regard the maternal placenta not as a simple modification of the mucous membrane, but as a formation of a new organ which has a transitory and determinate

function, and of which no trace is discovered in the empty womb.

At the time of delivery the maternal placenta remains intact in the womb of the females whose placenta is villous and multiple, and afterward decays gradually. In the mare there remains no trace of it in any portion of the womb; in the cow it exists previous to pregnancy, and after delivery is found the trace of those places in which only the glandular organ will be or has been formed. The trace of these places is known under the name of *rudimentary cotyledons*, even in the womb of the fœtus.

In those animals whose placenta is single, that portion of the womb which was occupied by the placenta rests after delivery covered with a thickened mucous membrane whose borders are surrounded by very elevated mucous folds.

The author has followed up this new observation, and he has remarked that immediately after delivery in the bitch, as has been said, it is flat, thickened, and covered with little shreds. Three days after delivery, instead of being flat, it appears as if it were formed by a number of elevated folds closely crowded together; this change may be attributed to the already remarkable diminution of the cornua of the womb. If these folds are observed attentively, they will be found invaded by a fatty degeneration which gradually completely destroys them. The author has assured himself that at the end of thirty days they have entirely disappeared.

The complete separation and total expulsion of the maternal placenta occurs solely in the human race at the moment of delivery; and so it is also in the woman alone that there is produced in this way a traumatic lesion of the uterus on account of the laceration of organs laying bare the conjunctive tissue in all the extent which was covered by the placenta.

In those animals with a single placenta the lesion spoken of is confined to the connective tissue of the folds of the mucous membrane which has accompanied their elevation, and to which is due the increase of the glandular follicles. In brief, it is the newly-formed portion of the maternal placenta which is torn and detached. The contraction of the womb and the approach of the parts to one another by diminution of the

volume of the uterus, produce a prompt and efficacious relief for the slight lesion that has occurred.

Before describing the structure of the human placenta, the author has studied the structure of the *true* or *direct* decidua and of the decidua *serotina*. Anatomical examination has demonstrated, as has been observed in the *résumé* of the first part of the treatise, that the uterine deciduous membrane is a product of exudation which results from materials elaborated in great part by the uterine glands. When the ovum arrives in the uterus, whose internal surface is lined by the decidua, it also receives a similar covering; and it is with such material that the decidua reflecta is formed, and the ovum is fixed in one portion of the womb. In the spot where the ovum is arrested, the direct decidua and very thin *reflected* decidua unite together, as it will happen later when the ovum as well as the exterior covering or reflected decidua enlarge, that the latter will come into contact with the direct decidua. At this point of contact of the ovum with the uterine decidua the absorption of materials which serve for the nutrition of the egg before the formation of the placenta, is more active; and one may well believe that it is the surface of the uterus uncovered at this point which is the origin of the new formation of the decidua serotina.

In the woman it is not the uterine mucous membrane properly so called which increases, as happens in the lower animals, in order to form the glandular organ, or maternal placenta, but the organ proceeds entirely from the woof of new formation furnished by the submucous connective tissue of the uterus. This stroma was called by the old anatomists decidua serotina. Among the modern ones M. Robin has been the first to describe the cellular structure of this membrane (*loc. cit.*, *Mém. de l'Acad. de Méd.*, tome xxv., 1861).

The fundamental and typical portions of the glandular tissues are maintained, as will be seen, in the maternal portion of the human placenta. All the accessory parts, that is to say, relative to the form of a glandular follicle, disappear completely.

The cellular structure of the decidua which reinvests the uterine surface of the placenta, is observed also very easily

upon the foetal surface which is covered by the chorion. This places beyond doubt the fact that the serotina penetrates into the interior of the placenta. In searching with great attention one may also easily perceive that in the interior of the placenta the cells of the serotina undergo a rapid change in several places into true fibrous tissue, especially in order to enclose the great lacunæ of the placenta which contain the maternal blood. This same change happens within the substance of the decidua serotina, so as to form a solid wall for the utero-placental veins before they arrive at the womb. Further, the serotina rises up into the interior of the placenta, and covers the villi of the fetal placenta as far as the chorion, and follows them in all their numerous ramifications. In this long extent, the cells of the serotina afford examples of the greatest and most rapid changes. The most important consists in the sheath with which it furnishes all the villi of the foetal placenta. This sheath is formed of a fibrous membrane at the commencement, and which appears without cells (anhiste), and by an internal epithelial layer, which constitute together the fundamental portions of the *glandular organs*.

From the stand-point of philosophical anatomy one may say that the decidua serotina represents in the woman the glandular organ of the placenta of animals in which the existence of this serotina is universally denied.

Near the chorion the parts of the decidua serotina constituting the glandular organ in the woman change gradually into fibrous tissue, and thus form strong cords which serve to fix the vessels firmly, from which spring the villi of the chorion. The author had an opportunity of observing this fact, which had taken place in an abnormal manner close to the serotina in an abortive diseased placenta.

Once that the vascular trunks of the foetal placenta are invested by the serotina changed into the glandular organ, the numerous villi that spring from them push before them in a lunated form the walls of the sheath, and they remain covered by it in this fashion like the fingers of a hand by a glove.

The blood of the mother bathes directly the external wall of the sheath supplied to the villi by the serotina; and the villi of the foetal placenta are bathed and in contact with only

the liquid from the cells of the glandular organ which is the mother's uterine milk.

In the human species alone the utero-placental arteries and veins are not distributed in trunks and branches in the placenta, as is the case with the brutes. The maternal blood spreads in the interior of the placenta in the cavities or lacunæ which communicate with each other, and which are bounded on the side of the foetus by the chorion, and on the side of the uterus by the serotina. In the cavities filled with blood swim the villi covered by the glandular organ furnished by the serotina.

The solid union of the vessels with the chorion and serotina, the internal prolongations of the latter, which are united to the internal prolongations of the chorion, limit the distention of the placental sinuses or cavities which would naturally be produced by the arterial blood arriving at the placenta constantly from the mother.

The venous sinuses surrounded also by the serotina return to the mother the blood which has fulfilled its function in the placenta, through the utero-placental veins. In the human placenta there necessarily takes place a mixture of the mother's arterial blood with the blood again become venous in the placenta; thus it is only in the human species that we have an example of this kind of circulation in the sinuses, and it is a mixed blood from the mother also which is carried into the general circulation from the placenta.

Clinical Records from Private Practice.

- I.—*A Case of Fatty Degeneration of the Heart and Liver; Scirrhus of the Spleen, Kidney, Peritonæum, and Colon, and Tuberculosis of the Lungs.* By JAMES CUMMISKEY, M. D., Physician to St. Mary's Hospital, Philadelphia.

Edward A. C——, aged twenty-eight years, born in New Jersey, resident for the last two years in Newcastle, Del., was attacked about the last of June, 1868, with—what his physician pronounced to be—bilious, and, afterward, typhoid fever. About the last of July he came to Philadelphia and placed

himself under my care. I found him suffering from the following symptoms: debility, occasional vomiting without nausea, anorexia, slight tenderness on pressure over the abdomen, and tongue somewhat coated. A tonic course of treatment was pursued, and, in about ten days, feeling himself improved, he returned home. Shortly after, a cough, which was noticed just before he left Philadelphia, commenced to trouble him, and being directed by his physician to use croton-oil on his chest, through ignorance of its effects too much was used, and he very nearly died from hypercatharsis. So soon as he recovered sufficiently from this mistake to be able to move about, he returned to Philadelphia, and I was sent for again to see him. At this period (about September 1st) I found the following condition: great debility, considerable emaciation, anorexia, vomiting more frequent (five or six times a day), bowels constipated, tongue clean and slightly red at edges, slight, dry, hacking cough, and sense of tickling in larynx, lung-sounds healthy, pulse about eighty and small, no fever, continued tenderness over abdomen, particularly at epigastrium and in the right iliac region, the whole of front of abdomen hard to the touch, which (as the patient was nervous), was attributed to contraction of the abdominal muscles. On careful examination, hypertrophy of the liver was discovered, but, owing to the general hardness of abdomen alluded to, its extent was not determined. After the lapse of about a month, the dry cough became more troublesome and violent; its seat seeming to be located entirely in the larynx. An examination with the laryngoscope, however, by Dr. Cohen, revealed no cause for the trouble. Vomiting still continued. He now commenced to grow weaker and to keep his bed.

About the 6th of October, examined the chest carefully again, and found some dulness at apex of left lung, and rude respiration at top of right lung.

As his condition was growing more critical, I proposed a consultation, and Dr. A. Nebinger was called in, who continued to attend him with me till his decease. The violence of the cough commenced now to abate and the vomiting almost entirely to cease—a little expectoration of white frothy

mucus (at times yellow) was from this time occasionally observed. Tenderness of abdomen still continued.

October 10th.—Symptoms were the same, with the addition of slight night-sweats and fever; pulse about 130; was able to take cod-liver oil and all the nourishment offered him.

October 20th.—Chest symptoms at this date were worse, crackling being heard throughout the left lung, and increased bronchial respiration on right side; there was also dulness on percussion over whole of left lung and at top of the right, emaciation much increased, night-sweats frequent, and pulse ranging still from 120 to 130.

October 22d.—He was much worse, delirium frequent, and left lower limb swollen.

October 28th.—Died at 10 A. M.; for several days previous was almost constantly delirious, and was affected by slight diarrhoea.

Sectio cadaveris, eleven hours after death. Body extremely emaciated. On opening the chest the left pleural cavity was found to contain about a quart of fluid, the right one about a pint. The left lung was found much compressed and pushed upward, occupying the upper half of left cavity of chest. The right one was *in situ*. The whole of the left lung was found filled with tubercles in process of softening, the upper third being simply a mass of tubercles. The apex of right lung was also filled with them, and some were found here and there through the lower part. The external surfaces of both lungs presented a singular dark-greenish color. There were no pleuritic adhesions of any account. The heart was small and very pale. On the abdomen being opened, the liver was found much enlarged, measuring about fourteen inches transversely, and ten inches antero-posteriorly. It was pale, and was dotted throughout with little white particles resembling fat. The stomach, spleen, pancreas, and intestines, were all strongly bound together by the omenta, which were thickened, quite hard to the touch and knife, of a yellowish-white color, and resisted all efforts to separate the organs from one another. The spleen was slightly enlarged, its peritoneal covering being thickened and hard, and its interior presented here and there small white particles, as in the liver. The alimentary canal

appeared free from disease, except the colon at the ileac junction, which was very much thickened and hard. Both kidneys were enlarged.

MICROSCOPIC EXAMINATION (made by Dr. Hargadine).—*The heart* was soft and friable, and in an advanced stage of granular fatty degeneration, the muscular fibres being filled with granules and the striæ obliterated.

The liver had also undergone fatty change, the hepatic cells being filled with globules and granules of oil, and many of them exhibiting no evidences of normal structure.

The lungs more studded with tubercles in various stages of development and decline, *most of which were, however, in a state of softening.*

The peritoneal investment of the spleen, which was greatly thickened, presented well-marked cancer structure; cells, varying as much in size as form, being present—the caudate, bicaudate, and oblong forms mostly predominating, together with a great many rounded cells, large in size, with very large nuclei. A great part of it, however, seemed to be composed of free nuclei and granular matter. The substance of the spleen was infiltrated with small round cancerous masses resembling tubercles, and their minute structure was similar to that of the peritoneal investment. Well-marked cancer-cells were found in the left kidney, scattered in points through its substance; the rest of the kidney had undergone some granular fatty change, as shown by the fatty granules found in the epithelial lining of the uriniferous tubules.

The omentum presented the same changes as were found in the spleen, viz.: fibrous stroma filled with granular and cellular matter, the former largely predominating, but enough cells of the kind described to show its undoubted malignant character.

The portion of colon examined was a mass of cancerous growth, exhibiting the same character as the omentum.

Upon inquiry of his friends, the following points in the earlier history of the deceased were obtained, which may be of interest to the reader:

Since his eighth year he had suffered from hæmorrhoids. While a theological student, in 1861, he commenced to experi-

ence fainting-attacks, preceded and accompanied by severe pain at the heart, and which usually lasted ten or fifteen minutes; at a later period, these attacks would recur two or three times of an evening. For several years past, he complained constantly of a weight and pain at the epigastrium, and his stomach generally swelled after eating, and frequently rejected solid food. He had a constant aversion for meat. His left leg and arm would, at times, become quite numb, so much so, that he would almost lose, for a time, the use of them. These attacks of numbness would last sometimes as long as a week. For some months previous to his last illness he was noticed, by his friends, to have a constant disposition to lie down, and to be dull and very desponding. (His private affairs, however, were so disturbed at this time as to offer sufficient cause for this despondent condition.) To raise his spirits and relieve the pain at the stomach, he resorted frequently to alcoholic stimulants, and occasionally he committed excesses in drinking. During the last year his memory became impaired, and his disposition very irritable. He had been an excessive smoker for several years. His parents are still living, and are healthy.

II.—*A Case of Sunstroke successfully treated by Bloodletting.*
By W. W. HEWLETT, M. D., Babylon, N. Y.

On July 12, 1869, I was called to see John A., thirty years of age, stout, hearty, and a farmer by occupation. He had been cradling during the morning. I saw him at 3 P. M. Found him delirious; his delirium of a high character; face flushed; pulse eighty-six per minute. He would throw his arms and legs about wildly, on account of which he was partially restrained by assistants. Occasionally complained of the most intense pain in the right side of the head.

The treatment consisted in the application of an ice-cap to his head, and strong mustard-poultices to the lower extremities, from the ankles nearly to the knees, and the administration of one grain of codeine. After an hour had elapsed, his active symptoms subsiding, another grain of codeine was given. Saw him four hours after. He had slept a little, but muttered a good deal in his sleep. Pulse sixty-four. Applied

a blister to the nape of the neck, and administered five comp. cathartic pills (U. S. D.)

In the morning, found him sitting up and feeling better, but with a feeling of "fulness and dizziness" in the head. Advised a continuation of the same remedies, viz., codeine, ice-cap, and the mustard applications.

At 2 P. M., four hours after my last visit, was summoned in great haste. All the symptoms were intensified, and super-added was that of great intolerance of light. He was an exceedingly powerful man, and would break away from his assistants, four in number, and rush about the apartment, against the sides of the room, overturning chairs in his course, and fairly howling with pain. Owing to his extreme restlessness I was unable to note the pulsations. The remedies used previously, though persisted in, yielded no permanent good results. I determined to bleed him, and did so, abstracting about eighteen ounces of blood from the arm, which ameliorated all the symptoms. The ice-cap was reapplied, and codeine again administered; after which he became quiet, and slept well during the night.

On the following morning ordered the bromide of potassium, in doses of fifteen grains, three times per day, which was continued for about two weeks.

Since he was bled he has not experienced a single untoward symptom, and was performing light work about his farm within ten days. It occurs to me that, in this case, blood-letting was both advisable and beneficial.

III.—*Double Pregnancy; Delivery at Term of a healthy living Child, and of a Fetus of about Six Months in a State of complete Putrefaction.* By P. DE MARMON, M. D., Kingsbridge, N. Y.

On the 2d day of May I was called in a hurry by a distressed husband whose wife, according to his story, was dying with pains. This woman had been delivered, on the 30th of April, of a living child by the hands of a *commère*; the delivery was natural, and the so-called midwife for the occasion said she did not touch any thing inside, and could not account for so much after-pain.

The patient, Mrs. W., aged thirty-eight, was the mother of eight children, all living, and all from single births, the oldest twenty years old, and the youngest five. This woman is of a strong and healthy constitution. She pretended that her delivery was so prompt that she had no time to send for a physician, and that she sent for the first woman she could get, to help her in her trouble, but that she was very sorry, because she had had severe after-pains for the last sixty hours.

I made an examination, and felt at the entrance of the vagina a foreign body about the size of a goose-quill, giving the sensation of wet cord; introducing my finger a little farther up, I felt some loose bones; took the whole between my two fingers, and pulled out a foetus at about six months' term, and in a state of complete putrefaction. The scalp was torn; no cerebral substance could be seen; the bones of the head were entirely loose, and gave the sensation of something like crab-shells in a wet silk bag; the thorax could be torn open without the help of any instrument, and the heart and lungs, as well as all the thoracic organs, were entirely soft. The arms and legs were of a brownish color, something like boiled beef or mutton; the skin almost sticking upon the bones, soft, and easily torn; disarticulation easily effected by slight pulling.

The umbilical cord was detached readily from the body, but was very firmly attached to the placenta; this was round in shape, and had the same consistence as if it had been kept in alcohol for a long time; it showed no signs of any adherence to the placenta of the other child; the amniotic bag was in complete deliquescence; the whole was very fetid, and weighed one pound and a quarter.

I find but very few cases of the same kind on record. One is reported by Dr. Marye, in *Archives de Médecine*, 1830, t. xxiii., page 259, of a lady who was delivered at term of a living child. The pregnancy was double, and the second bag, full of a greenish but unfetid water, contained a dead female child; this one appeared to be at about the fifth month of conception, and did not present any trace of putrefaction. It was in a completely-separated bag, and could be compared to a foetus preserved in alcohol.

Portal reports a case where a first child being born healthy

and followed by its placenta, he extracted from the uterus two fœtuses in complete desiccation, and which had been dead for a long time (Cazeaux, *Traité de l'art des accouchements*, 1846, page 136).

These are the only two cases I find of gemellar pregnancy where, one of the twins being dead, the uterus retained them both until full term.

In cases of single pregnancy, it is not uncommon to see the uterus retain a dead fœtus until full term, and even a very long time. Thus Vincent Alvario (*De Abortu in 4° Roma*, 1627) reports a case of a dead fœtus which was expelled only after the ninth month of pregnancy, and which was completely dried up. It appeared to be only at four months' term.

Demeaux (*Gazette Médicale de Paris*) saw a lady who, being four months pregnant, was thrown down in a crowd, but took no notice of it, and bore the child to the ninth month. After the discharge of the amniotic fluid, this physician found in the vagina a small, hard, foreign body, and saw that it was a fœtus dead for a long time. The skin was as if it had been tanned; it was so much flattened that the head was not thicker than a silver dollar (Louis Sentex, *Des alterations que subit le fœtus après sa mort*, etc., Paris, 1868).

In the case of Mrs. W., this woman remembered that, about three months before her confinement, she had a fall, but took no notice of it at the time, though since that time she did not feel quite well, but had no hæmorrhage or any other discharge. It is probable that, at the time of her delivery, the fœtus was mummified, and that putrefaction took place within the sixty hours which elapsed between the parturition of the first child and the time when I saw her.

Dr. Louis Sentex, in his excellent Opusculé (*loc. cit.*), reports numerous cases of single pregnancy, where the child was dead sometime before delivery.

An important paper upon the death of the fœtus in the first months of pregnancy, the uterus retaining the product of conception, has been published by Dr. Gennaro Galbiati (*Bulletin de l'Académie Médico-Chirurgicale de Naples*, November 29, 1864). The author has himself observed three cases, which may be summed up as follows: Serious threats of abortion

at a more or less advanced time of very evident conception, every thing returning normal, and after a certain time the women are delivered with children appearing to have only the age they had at the time of the threats of miscarriage.

The *Osservatore Medico*, of Naples, 1834, *apropos* of the observations reported by Dr. Galbiati, has reported a case in which the foetus had been thus kept eleven months. In 1827 he had reported another case, where the foetus had remained eleven years *in utero*. Finally, he mentions a case still more curious, of a woman who thought herself to be pregnant for fifty-one years, and, whose autopsy being made, a completely-desiccated foetus was found in the uterus.

But these cases of death of the foetus in single conceptions are comparatively numerous, while they are very scarce in cases of gemellar or twin pregnancy.

In my case, as well as in the similar ones cited, it is certain that both foetuses had each their own membranes, as is generally the case in double pregnancy; for, had it been different, the death of one foetus would have undoubtedly, acting as a foreign body, caused the death or premature birth of the other.

Though it is generally admitted that each foetus has its proper envelopes, the contrary is sometimes, but rarely, observed (*Dict. des Sciences Méd.*, vol. xix., p. 370 and following). Mauriceau thought that this disposition could only take place when both foetuses were joined or attached one to the other. The history of medicine contains several cases of foetuses attached together, and which most probably have been contained in the same membranes. Mme. Lachapelle, who has seen nearly forty thousand cases of parturition, has seen only one case where twins were in the same sac, and in that case they were both united, to a certain extent, back to back. Mery exhibited to the Royal Academy of Sciences a pair of twins in the same envelopes. Gientaud, surgeon at Arles, reports that a woman, three months and a half pregnant, miscarried with twins, which, though their bodies were separated, were attached by their respective cords to the same placenta, and enclosed in the same membranes.

IV.—*Extra-uterine Fœtation; Rupture of the Cyst; fatal Hæmorrhage.* Reported by E. R. HUN, M. D., Albany, N. Y.

Mrs. Haas, aged thirty-five years; German. Has one child, about four years old. Lived on a farm, near Albany. April 8, 1869, her husband left her, taking with him all his property, and bidding her to come to Albany to rejoin him. She came at the time appointed, but could find no trace of him. After being thus abandoned, she returned to the country, and there remained until April 28th, when she again came to town, hoping to hear some news of her missing husband. Upon arriving in the city, she walked a distance of several blocks, carrying her trunk upon her head, and reached the house of one of her friends safely, and in apparent good health. Between four and five o'clock in the afternoon, she was seen in front of the house by some passers-by, who exchanged a few joking words with her. No one seems to have noticed her from this time until six o'clock, when a neighbor came in, and said that a woman was lying in the backyard and seemed to be in great pain. One of the bystanders went out, and found Mrs. Haas lying upon her right side upon some flag-stones, at the foot of the back stoop, her head being farthest from the steps. He carried her up-stairs, when it was proposed to remove her to the Almshouse Hospital, but she requested to be left alone, saying that she knew she was dying. She remained in a state of collapse until midnight, when she died.

Autopsy—ten hours after death.

External Appearance.—Body well nourished. Abdomen quite tumid and dull on percussion. Rigor well marked. No external marks of injury.

Thorax.—Old pleuritic adhesions about the lower lobe of the left lung. No signs of pulmonary disease of any kind. The pericardium was smooth and shining, and the sac contained about half an ounce of clear serum. The heart was of normal size, and its tissue and valves were normal.

Abdomen.—Upon opening the peritoneal cavity, it was found to contain more than a gallon of fluid and clotted blood.

Directly over the uterus, and partially enveloping it, was a large dark clot; this being removed, a foetal head enveloped in its membranes was seen to have escaped from what appeared to be a rupture of the right anterior part of the fundus uteri. The kidneys, liver, and spleen, were remarkably exsanguinated, but otherwise healthy. The bladder was empty.

Brain and cord were not examined.

The uterus and its contents were removed, and, upon subsequent examination, it was found that: 1. The foetus was contained in the dilated right Fallopian tube, and occupied that portion of the tube just external to the uterine wall. 2. The rupture occurred at that portion of the cyst farthest from the uterus. 3. The foetus was a male, and had reached about three and a half months of development. 4. The membranes had not ruptured. 5. The placenta was attached to that portion of the cyst nearest the uterus. 6. A probe could be passed from the right corner of the uterus through the pervious Fallopian tube into the cavity containing the foetus. 7. The uterus was developed to such an extent as to measure five inches in length by four in width. 8. The uterus

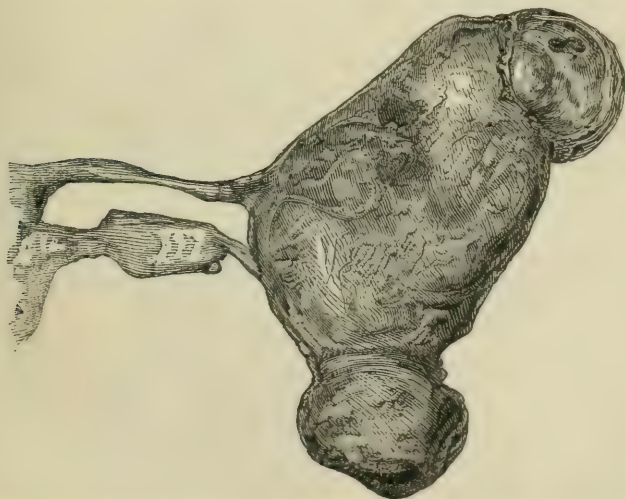


FIG. 1 represents the uterus and cyst as removed from the body of the patient. The coiled-up foetus is seen through the transparent wall of the cyst. The right ovary was torn off in removing the specimen.



FIG. 2 shows the appearance of the lining membrane of the cyst.

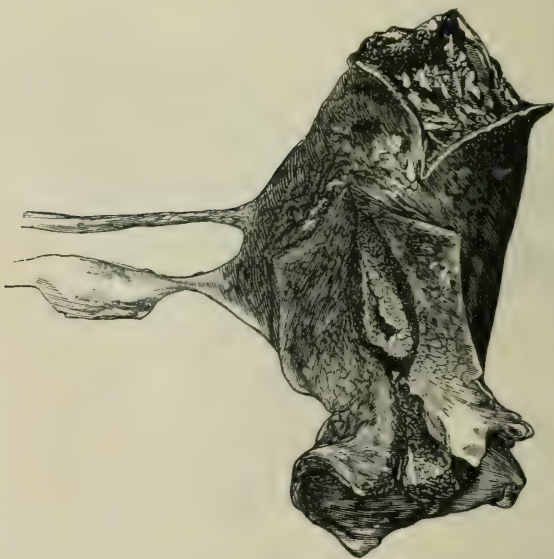


FIG. 3 gives another view of the interior of the cyst, and also shows the deciduous lining of the cavity of the uterus.

contained a partly detached deciduous membrane, and its cervix was filled with glairy mucus. 9. The left ovary and corresponding Fallopian tube were normal, with the exception of a small serous cyst, which was developed in the fimbriated extremity; the right ovary was lost in removing the mass from the body.

The accompanying illustrations will enable the reader to form a very accurate idea of the appearances presented on the exterior and interior of both uterus and cyst.

Proceedings of Societies.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Stated Meeting, September 6, 1869.

Dr. GEORGE T. ELLIOT, Jr., President, in the chair.

ANOMALIES OF REFRACTION—ASTIGMATISM.

Dr. HENRY D. NOYES, by the aid of two magic lanterns furnished with movable cylindrical lenses, gave a series of beautiful illustrations of the phenomena of astigmatism—the distorted appearances presented to the astigmatic eye—the means of diagnosing the affection, and of relieving it. In connection with these he gave a brief but comprehensive exposition of the more important anomalies of refraction, in substance as follows:

The perfection of sight is attained when we have associated together perfectly accurate refraction, by which a correct image is formed upon the retina; a healthful condition of the retina to receive it; and the proper transmission of the retinal impression to the brain. It is to errors of refraction alone that I wish to call your attention this evening, and particularly to one of these, in its several varieties, though I shall be obliged to glance also at the others.

The eyeball is very nearly a sphere, about one inch in diameter, and, as a refractive instrument, is the equivalent of a convex lens of about one-half-inch focus. The image formed by a lens of so short focus is necessarily small; and the correct perception

of such minute objects as we deal with in reading and writing calls for a perfection in the outline of the image which we do not commonly appreciate. The part of the retina upon which the image is formed, in direct vision, is hardly a millimetre (1 mr.=0.03937 in.) in diameter, and this must hold the picture of an object as large as the hand at twelve inches' distance.

Errors of refraction have been attributed, on the one hand, to different degrees of refractive power in the media; and, on the other, to variations in the form of the eyeball. It has of late been proved that the former view is incorrect; that these errors very rarely depend upon variations in the indices of refraction of the media—upon variations in their substance, that is—but depend rather upon changes in the curves of these media, and in the form of the eyeball posteriorly.

The first of the anomalies we shall speak of is that known as *hypermetropia*, a condition in which the antero-posterior diameter of the eyeball is abnormally short. It is only within a few years that this affection, which is congenital, has been clearly distinguished from *presbyopia*, an acquired condition consisting in loss of accommodative power from hardening of the crystalline with age. In the hypermetropic eye, when making no effort at accommodation, the image of a distant object should, as you see by this diagram on the blackboard, be thrown to the same distance behind the lens as in the normal (emmetropic) eye; for the media have the same refractive power. But, the eyeball being too short, the retina is in front of this principal focus, and therefore receives the rays from the object in circles of dispersion, giving an image with blurred and confused outlines. If the hypermetropia be slight, it may be overcome by the accommodative power so increasing the convexity of the lens as to focus the rays upon the retina in its abnormal position; but if it be excessive, convex glasses must be employed. The strain upon the power of accommodation in these cases furnishes the explanation of many of those troubles commonly called asthenopic, where persons find it fatiguing to read or write for any length of time, and yet, from their youth, do not think of resorting to "old" glasses.

We are still more familiar with the *myopic* eye. This is, commonly, not one in which the cornea or the crystalline is too

convex, but one in which, on account of defective structure, the membranes of the posterior portion of the eyeball have become distended, thus elongating the antero-posterior diameter, and throwing the retina too far back. This condition might be inferred, independently of examination, from the fact that near-sightedness generally begins in early life, before the tissues have become thoroughly firm.

From what was said in connection with the size of the retinal image, it will be understood that it takes but a small departure from the normal standard, in either of these directions, to produce a considerable disturbance of sight. For example, an eyeball too short by 0.4 mm. would require, for its correction, a convex glass of 24 in. focus; one too short by 1 mm., a glass of 10 in. focus; one too short by 1.8 mm., a glass No. 5—almost as strong as that required after operation for cataract. On the other hand, where the eyeball is elongated, a concave glass is needed; and we can infer from its number the amount of the posterior distention. Cases have been seen in which the antero-posterior diameter reached 33 mm., the normal length being 26 mm.

The shortening of the axis of the eye in hypermetropia, as before remarked, is a congenital defect, an arrest of development. If it be considerable, the same defect of development will show itself in the individual parts of the eye; the retina will be imperfectly constituted; and, therefore, however accurately you may correct the error of refraction by means of convex glasses, you will rarely, where the higher numbers are required, succeed in giving the patient perfect sight. I had recently a patient, one of whose eyes was hypermetropic one-third—a degree so great that it was thought, at first, that the lens must have been removed. Upon such extreme cases, which are quite rare, it is impossible to confer any great improvement.

It is not my purpose, however, to go into a thorough examination of these defects; but rather to come to another aberration of form in the eye, belonging not to its posterior but to its anterior part—*astigmatism*. This defect has been found—by measurements, among the most accurate known to modern physical science, made by Helmholtz, assisted by Dr. Knapp,

of this city—to reside chiefly in the cornea, though also, to a less extent, in the crystalline lens. The astigmatic cornea, instead of corresponding, like the normal one, almost exactly to the surface of a sphere, is found to approximate in curvature to the surface of an ellipsoid. The effect of this is to render its refractive power different in its different meridians. Suppose, for example, that there is the greatest increase of curvature in the vertical meridian, that of the horizontal being unchanged. Then, objects whose outlines are mostly vertical will have these imaged in front of the retina, and so of course indistinctly seen, while horizontal lines will be traced upon the retina, and oblique lines will be imaged more or less imperfectly between these two foci. Should the meridian of greatest curvature be oblique, as is apt to be the case, then what we have said of vertical and horizontal lines will apply to lines parallel to the plane of the principal meridian and perpendicular to it. This affection assumes a great variety of types. It may belong to the hypermetropic, the myopic, or the emmetropic eye. Thus all the meridians may form their images in front of the retina, or all behind it, or some in front and others behind.

What should lead us to suspect a person of suffering from astigmatism? In the first place, such a person will be unable to meet the familiar tests of acuteness of vision; he will be unable, for instance, to read Snellen No. XX. at twenty feet. Again, he is very apt to have painful vision of near objects; reading and writing soon tire him, and he exhibits the group of symptoms known as asthenopic. Then he may have something peculiar in his carriage and manner. I have known several young ladies accused of affectation, from the habit of carrying the head on one side, partially to rectify the distortion from astigmatism with the principal meridian oblique. Or it may be noticed that, in reading, the book is held obliquely. But these are only general indications; the precise facts in each case must be ascertained by certain specific tests.

These tests, as first devised and practised by Donders, and since modified by others, consist in noting the appearance to the patient of figures having lines drawn in the planes of all the meridians. A good many practical difficulties occur in

the examination of such cases. The spasmodic efforts at accommodation, which are unavoidable, make it hard for the patient to decide whether or not certain lines are seen, and the relative distinctness of others. Hence it becomes necessary to multiply tests, and I here show you quite a variety. [Cards were exhibited containing, besides the older test-figures, those of Dr. JOHN GREEN, of St. Louis, figured and described in *Am. Jour. Med. Sci.*, January, 1867, No. XCV., p. 117; the striped letters of the late Dr. O. M. PRAY, of Brooklyn, given in *Arch. Ophthalm. and Otol.*, No. I., p. 17; and others.]

Another kind of test is that of making the patient look at a distant object through a narrow slit in a piece of metal, for instance, which may be turned before the eye to correspond with its different meridians. It is found that in one position of the slit he sees quite distinctly, and in the one at right angles to it very indistinctly. But in the best position there may still be some improvement to be made by the aid of ordinary convex or concave spherical glasses. These should be tried in front of the slit until the correction for the given meridian is determined; and then further trials be made to determine what remains for correction by the peculiar lenses for astigmatism. These are glasses which refract chiefly in one plane, that is, they are ground not with a spherical but with a cylindrical surface. They are readily combined with the ordinary glasses by making one side of the lens cylindrical and the other spherical.

I have been informed by an optician of this city, Mr. McAllister, that, some forty years ago, his father, then actively engaged as an optician in Philadelphia, received a letter from a clergyman in Georgia, saying that he had been unable to find glasses to suit his eyes, and that he had discovered, as a matter of experience, that he could see the vertical lines in a brick wall very well, but could not see the horizontal ones. Mr. McAllister divined the difficulty, and made him a pair of cylindrical glasses, which served their purpose. This case, which I believe has not been published, must be the earliest of the use of the cylindrical glasses in this country, and nearly, if not quite, as early as that of Mr. Airy, who is accounted their originator.

Many cases of astigmatism are set down as belonging to amblyopia, and due to disease of the membranes. Persons have come under my notice who had almost grown gray under the belief that they were amaurotic, when the whole trouble was a refractive error, susceptible of correction. The affection is by no means rare, but is to be found in a considerable percentage of the cases applying for relief from painful vision. It is difficult to say what degrees of it should be considered morbid. I have known an error of $\frac{1}{60}$ give so much annoyance that it was necessary to correct it. On the other hand, I have seen persons with an error of $\frac{1}{10}$ who got on without complaint; but, with so high an error, they would hardly reach the age of thirty without suffering from asthenopia.

It is unnecessary to go into any detailed description of the ways in which astigmatic persons see objects distorted, since the matter will be so much more clearly illustrated by bringing the appearances themselves under your observation. This is best done by the magic lantern, fitted with a cylindrical lens. As the two eyes are often affected with astigmatism in different degrees, or in different meridians, I have here two lanterns to show the binocular effects.

[First was thrown upon the screen a luminous point, which, on application of the cylindrical lens, was expanded into a line, illustrating the simplest characteristic effect of astigmatism, whence the term has its origin (α , privative, and $\sigma\tau\iota\gamma\mu\alpha$, a point). This was followed by numerous illustrations of the subject, accompanied by an explanation of the use of the tests in diagnosis. In connection with the tests by radiating lines, it was noted that those lines which had the sharpest definition appeared also to penetrate farthest toward the centre.]

Dr. KNAPP said that the curvature of an astigmatic cornea is that of an ellipsoid of three axes, not that of an ellipsoid of revolution. He exhibited a model to show the effect of this upon the refraction, producing, not a series of foci, for the various meridians, along the optic axis, but two principal linear foci, at right angles to each other, connected by a skew surface.

Dr. ROOSA, being called upon, related a case. He thought something should be done by the profession to save the public

from being misled by ignorant writers, who presume to instruct them through the magazines, advancing such absurd and harmful doctrines as that the use of spectacles is always injurious, and endangers loss of sight.

Dr. BRICK indorsed the remarks of Dr. ROOSA. He questioned whether it would not be well for the Society to take official action in the matter, by having a scientific and yet untechnical explanation of the proper indications for the use of spectacles, prepared by a competent committee, and published under authority of the Society.

Dr. E. ELIOT gave notice of proposed amendments to the by-laws; after which the Society adjourned.

Bibliographical and Literary Notes.

A Treatise on Physiology and Hygiene. For Schools, Families, and Colleges. By J. C. DALTON, M. D., Professor of Physiology in the College of Physicians and Surgeons, N. Y. New York: Harper & Brothers, 1868, small 8vo, pp. 399.

THE extension of a knowledge of physiology is a matter of great importance, for even the non-professional mind quickly sees that an acquaintance with this branch of science is of inestimable service in the prevention of disease and the conservation of life. It is well, then, that men of eminence and unquestioned ability in this branch of medicine should consent to do this work, and thus supersede the trashy and superficial knowledge which is so liberally provided for the public by itinerant lecturers and ephemeral literature. Dr. Dalton's reputation in the department of physiological study is a sufficient guarantee of the reliability of the little treatise now before us, and, looking at it in reference to its fitness for the purposes proposed, we have to deal with the method which the author has adopted, rather than to consider the subject-matter of the book.

Taking the various animal functions, which naturally, as it were, arrange themselves into groups, the most simple are first presented, and the student is led along by easy stages to

the study of the more complex. In describing these functions special pains are taken to make the language as simple as possible, and no technical terms are introduced the meaning of which has not been explained in the text. Thus the work can readily be used by those who have no previous knowledge of medical subjects, and the bewildering confusion which too often comes to the learner, in the effort to comprehend professional matters, is avoided. A definition sometimes may render perfectly unintelligible what is really a very simple thing. For instance, did the reader ever happen to observe the definition given, in the first edition of "Webster's Unabridged," of a "boil"? It read, viz., "a circumscribed subcutaneous tumor characterized by an indurated base, and an inflamed areola, with a central suppurating core, a *peruncutus*." Now, barring the evident typographical error in the last word, which was undoubtedly intended for the Latin *furunculus*, this definition is correct and scientific enough, but what possible idea could it convey to a non-medical person? We need not say that we find no such prodigious and polysyllabic Johnsonisms in Dr. Dalton's little book.

Appended to each chapter is a series of questions on the subject-matter of the chapter, so that the pupil may accustom himself to fix his attention on the most important points of his study. A glossary, containing plain explanations of all the technical terms in use in the book, adds greatly to its value. The illustrations, which are reproduced from the author's larger work on physiology, are admirably executed, and serve a good purpose in explaining the text. Practical inferences concerning the securing of the best and healthiest performance of the various functions of the body, are found scattered—rather sparsely, however—through the book, and on these, we presume, rests the claim of the book to the title of a treatise on hygiene. These portions of the work might with advantage be extended. Indeed, they are quite incomplete as they now stand. Nothing is said of the function of reproduction. This we deem an error of judgment, although we know well that many of our most eminent teachers do not deem it wise to teach this subject to the young pupil. For ourselves, however, we think that any pupil, who is old enough and advanced enough

to study and appreciate the work before us, is also old enough and advanced enough to be properly taught in this subject, delicate as it is. The crude and often erroneous notions on such matters, which the young inevitably gather from those who are a little their seniors in years and education, are surely more harmful than correct and systematic teachings can by any possibility be; and we feel sure that no one is more competent to handle so perplexing a topic than the author of this little work, which, even with the deficiencies above alluded to, we consider unsurpassed by any treatise of the same scope in the language.

THIS indispensable little annual¹ comes to our library table so late, that our first inclination was to take the editor to task for his dilatoriness. But, on opening the book and reading the preface, we find there such a quiet and gentlemanly disclaimer of all intent of error, that really criticism is quite disarmed, and we have nothing to say beyond the commendation which in former years we have bestowed upon the Society and the editor for the serviceable work they are yearly doing for the profession. A supplement is promised soon, in which the errors of omission and commission, and they are by no means few, will be corrected. If the profession would only take the trouble to inform the editor of any mistakes which they may notice in the Register, it would be rendered much more accurate. The labor thus spent would be but slight for individual members of the profession, but in the aggregate would be of vast service to the editor, and we are certain such corrections would be most thankfully received and gratefully acknowledged by all concerned in the getting up of the work.

DR. BRINTON's thorough acquaintance with the Floridian peninsula, concerning which he has previously published another work of an historical character, has enabled him to put

¹ The Medical Register of New York City, Brooklyn, and Vicinity. For the Year commencing June 1, 1869, vol. vii. Published under the supervision of the "New York Medico-Historical Society," John Shrady, M. D., editor. New York: J. M. Bradstreet & Son, 1869. 16mo, pp. 326.

together here¹ a little book which contains a large amount of valuable information for those about to visit that country. In a professional point of view, the special interest attaching to this little *brochure* is to be found in the last four chapters, which are addressed to invalids. With reference to those who are suffering from diseases of the throat and lungs, Dr. Brinton says: "The model climate for such invalids must satisfy four conditions. It must have an equable temperature, moderate moisture, moderate and regular winds, and freedom from local disease." From his own experience, substantiated by the published testimony of the United States Army surgeons—"thoroughly educated physicians of unequalled experience in all the variety of climate which our country possesses, and who, having no quarter-sections to sell, or other axe to grind, give their evidence with the utmost impartiality"—the author claims that Southeastern Florida, especially the region about Fort Dallas on the Miami, approaches nearer this model climate than any place to be found in the South. Physicians who may be desirous of recommending change of climate to their patients, will do well to acquaint themselves with the contents of Dr. Brinton's little book, and we are sure they cannot do better than give to their patients the sensible advice contained in the closing chapter, under the title of "Some Hints to Health-seekers."

WE have received, from the New York agent of Mr. Zell, a set, as far as issued, of the *Popular Encyclopædia and Universal Dictionary*.² It is issued in weekly and monthly parts, so as to bring it within the reach of even those of moderate means, and the completion of the entire work is promised within two years, and at a cost not to exceed \$25. The mechanical execution of the work is good—the letter-press being well done; the illustrations are very accurate, and the impres-

¹ A Guide-Book of Florida and the South, for Tourists, Invalids, and Emigrants. By D. G. Brinton, M. D. Philadelphia: George Maclean, 1869, pp. 136.

² Zell's Popular Encyclopædia and Universal Dictionary, edited by L. Colange. Philadelphia: T. Elwood Zell, 1869. Issued in monthly parts of five numbers. Quarto, with numerous Illustrations. Price fifty cents per number. New York agency, 7 Murray Street.

sions, as a rule, are clear and distinct; added to this are broad margins, amply sufficient for binding without injuring the appearance of the work.

As to the plan of the work, it may be considered, as it were, a compromise between the dictionaries of Webster or Worcester, and the large encyclopædias; and it is intended to be a concise yet sufficiently comprehensive medium of popular information in the subjects of biography, history, geography, arts, sciences, and languages. We have examined with much interest and care the sheets thus far issued—extending to the word *Bestiality*—and are very favorably impressed with the manner in which the work has been done. The editor has displayed great judgment in hitting the happy medium as to the length of the articles, and he has evidently secured contributors competent in their special departments. Of course, it would be easy to find errors in a work of this description, but the general accuracy is such that we can willingly give a hearty, honest commendation to the work. The articles on medical subjects, which will especially interest our readers, are prepared with much care, and, as a rule, are very accurate. The range of subjects selected for illustration is rather surprising, and indicates that the editor is alive to the fact of the constant advance in the various departments of science and art. We find, for instance, even in the comparatively small portion of the work thus far issued, a number of subjects treated of for which we may in vain search the larger encyclopædias. If the work be completed with no falling off in the character of the articles, it cannot fail to be a valuable addition to our literature, and to amply justify its title of a “popular” and “universal” dictionary.

THE New Sydenham Society has selected for translation and publication the following works: “Niemeyer’s Lectures on Phthisis;” “Wunderlich’s Treatise on Temperature in Disease;” and “Stricker’s Manual of Human and Comparative Histology.” We are pleased to learn that the Society has been so well sustained by the patronage of the profession, that the Council are fully satisfied of their ability to furnish in the future their annual average of four volumes, besides the colored plates illustrating other works.

DR. J. V. LANSING, of Albany, N. Y., has lately published, through the house of J. Munsell, a little work entitled "Frogs and their Contributions to Science." It gives the natural history and habits of these little animals, and details the important parts played by them from the time of Homer and the Pharaohs, down to the discovery by Sir Marshall Hall, in 1826, of the reflex action of the nervous system.

MESSRS. WM. WOOD & Co., of this city, have become the publishers of Wormley's "Micro-Chemistry of Poisons."

MESSRS. LINDSAY & BLAKISTON announce "Andrews's Handbook of the Practice of Medicine;" a second edition of "Tilbury Fox on Diseases of the Skin."

HENRY C. LEA announces "Bigelow on Fractures and Dislocations of the Hip;" "Odling's Chemistry for Medical Students."

WE notice the following new medical works announced: "Auscultation of the Heart," by F. Churchill, M. B. London: John Churchill & Sons.

"Observations on the Ligature of Arteries on the Antiseptic System," by Joseph Lister, F. R. S. Edinburgh: Edmonston & Douglas.

"Leçons cliniques sur les Maladies chirurgicales des Enfants," par M. J. Giraldes.

"Traité des Affections de la Peau," par E. Bandot, après les doctrines de M. Bazin.

"De la Pleurésie Purulente," par F. Dumaschino.

"Des différentes Espèces de Néphrite," par V. Cornil.

BOOKS AND PAMPHLETS RECEIVED.—Hygiene in its Relations to Therapeutics. By Alfred L. Carroll, M. D. Square 8vo, pp. 37.

This paper was read before the New York Medical Journal Association, June 25, 1869, was printed in the *Medical Gazette* of which Dr. Carroll is editor, and is now issued in separate form by the publishers, Turner & Mignard, 109 Nassau Street.

Constitution and By-Laws of the East River Medical Association of the City of New York. Organized November 21, 1865. Pamphlet, pp. 23.

An historical sketch appended to this little pamphlet gives a very in-

teresting detail of the origin and progress of this Society, which is in a most flourishing condition. Many papers, which, judging from the titles and the names of the authors, must have been well worthy of publication, have been read at the various meetings of the Association.

Eleventh Biennial Report of the Trustees, Superintendent, and Treasurer of the Illinois State Hospital for the Insane, at Jacksonville. Pamphlet, pp. 38.

Special Report of the Trustees of the Illinois State Hospital for the Insane, in Review of a Report of a Legislative Committee, appointed by the twenty-fifth General Assembly. Pamphlet, pp. 111.

The Relations and Reciprocal Obligations between the Medical Profession and the Educated and Cultivated Classes. An Oration delivered before the Alumni Association of the Medical Department of the University of the City of New York, February 23, 1869. By Henry S. Hewitt, M. D. Pamphlet, pp. 16. (From the Author.)

Address delivered before the Philadelphia County Medical Society, February 24, 1869. By George Hamilton, M. D., President. (From Prof. Austin Flint, Sr.)

Puerperal Eclampsia. By C. C. F. Gay, M. D. Pamphlet reprint from the Buffalo Medical and Surgical Journal. (From the Author.)

Sixty-second Annual Circular of the Medical Department of the University of Maryland. Session 1869-'70.

Publishers' advance sheets of "Our Home Physician. A New and Popular Guide to the Art of preserving Health, and preventing Disease; with Plain Advice for all the Medical and Surgical Emergencies of the Family, containing Clear Descriptions of the Structure and Functions of the Human Body; the Influence of Occupation on Health and Longevity; the Laws of Inheritance; with New and Original Chapters on Diet, Stimulants, and Narcotics; Air, Sunlight, Exercise, Climate, Electricity, and Nervous Diseases of Modern Times; and full Directions for the Care of the Sick, and the Management of Infants and Children; with a General Description of Recent Medical Discoveries and Improvements; Plain Suggestions for the Treatment of Diseases adapted to the Wants of the Household, and for those who, like Miners, Sailors, Planters, and Dwellers in Remote Districts, are beyond the ready call of a Physician. Based on the most recent and highest Authorities in the Several Departments, and brought down to the Latest Dates." By George M. Beard, A. M., M. D., Lecturer on Nervous Diseases in the University of New York, etc.

If the book, of which this pamphlet is a specimen, be as long relatively as the title which we give above, the life of a man must be lengthened out to antediluvian proportions to enable one to attempt even a superficial acquaintance with the valuable material promised. We doubt, however, if

Dr. Beard can be held responsible for such a promiscuous and absurd announcement, for, in spite of his fecundity in writing, which every one who reads knows is something prodigious, he hardly would undertake such a superhuman labor. Probably the whole thing is only an attempt on the part of the publishers to forestall public opinion, and force a sale of the book. It is much to be regretted that Dr. Beard's name should have thus been made use of, for, however valuable may be the work, and his well-known industry and literary professional ability is a guarantee that the work will not be without value, the impressions created by this preliminary flourish cannot but be unfavorable.

Seventh Annual Announcement and Catalogue New York Medical College for Women.

Reports on the Progress of Medicine.

HYGIENE.

- 1.—*On the Comparative Action of Various Disinfecting Agents.* By Dr. BERENGER FERAUD, Surgeon French Imperial Navy. [Archives de Médecine Navale, and Med. Press and Circular.]

Dr. Berenger's experiments were conducted with especial reference to the disinfection of ships' bilges, but the results he arrives at will apply equally well in almost all cases where disinfection is desired. The experiments were made on board the yacht Jerome Napoleon, a screw-steamer of 200 tons' burden.

1. *Wood Charcoal.*—On a day when the smell was very offensive, I placed in the lowermost part of the bilges ten thin pack-sheet sacks, containing each twelve pounds of charcoal. Not the smallest diminution of odor was perceptible. This experiment was several times repeated, but on each occasion gave the same negative result. Thereupon I put a quart of the stinking bilge-water into a pail, and gradually added charcoal, carefully watching the effect. No sensible decrease of smell was noticed, till sufficient charcoal had been introduced to rise four inches above the surface of the bilge-water in the pail, and the whole had been kept in that state several hours. To produce any disinfecting effect, from six to eight quarts of charcoal to one of foul bilge-water were necessary, and even then the success was very doubtful. When the laudations that have been bestowed on charcoal as a disinfectant are remembered, its inefficiency in the above circumstances appears somewhat remarkable.¹ The enormous quantity which would be required to produce any result, even if that result were more complete, renders the use of charcoal utterly impracticable.

¹ It is now well known that wood charcoal has little or no disinfecting action when immersed in liquids. In the air it has the power, in common with many other porous bodies, of neutralizing certain gaseous products of decomposition, by reason of the condensed oxygen which, in those circumstances it contains. This is why, in the above experiment, it produced no effect until sufficient had been added to rise above the surface of the liquid.—Tr.

2. *Chlorine and Chloride of Lime*.—Abundant fumigations with chlorine had only the effect of modifying the smell, and of producing a compound odor as offensive as the one complained of. Moreover, the 'tween decks were rendered almost uninhabitable for the time, and the air in the hold totally unfit for respiration. No better effect was obtained from chloride of lime, neither when thrown into the bilges nor when exposed in dishes placed in the hold.

Thus, as a remedy for the smell from bilge-water, both chlorine and chloride of lime completely failed in my hands. But their injurious action on the engine, and other metallic objects on board, was not long in becoming apparent. I had an opportunity of observing what it would be under the prolonged exhalation of chlorous gases, from having left during a month an open jar of chloride of lime in one of the cabins of the *Jerome Napoleon*. All the locks and keys, and every thing composed of metal, were seriously injured, and even the bolts and fastenings of the vessel inside the cabin were, to some extent, attacked.

3. *Carbolic Acid*.—This substance was tried on the faith of the assertions contained in the work of Dr. Lemaire, of Caen. But its own odor is so offensive, that I did not venture to experiment with it on the large scale. I added a couple of drachms of pure carbolic acid to a quart of bilge-water. The original fetid odor disappeared; but whether it was destroyed or only overpowered and masked, by combination with the smell of the agent used, could not be determined.

Having repeated this experiment several times, I am inclined to think that the power of carbolic acid to remove the odor of bilge-water is very feeble; for I found that a piece of silver plunged into that fluid, after treatment with carbolic acid, was quite as much blackened by it as by the bilge-water to which no carbolic acid had been added. The odor peculiar to carbolic acid is so penetrating and disagreeable, as to have prevented me using it in the bilges of the *Jerome Napoleon*. I feel satisfied, however, that those who may venture to try it in the bilges, will find that this substance only substitutes for the smell which they emit, another equally offensive, if not perhaps so injurious to health.

4. *Protosulphate of Iron*.—One ounce of this substance in crystals added to eight ounces of bilge-water, removed the offensive smell in an hour and a half. One pound placed in a bucket containing two gallons of foul bilge-water, gave the same result after four hours. These experiments are similar to some which have been published by Dr. Forne, of the Imperial Navy; but it is curious, that whereas mine appeared to me to be successful, those made by him on board a vessel of the Mexican squadron seemed to give negative results. I have tried to account for this difference, and have conceived it to arise from the circumstance that, in the latter case, sufficient length of time was not allowed for the action of the protosulphate, or else that the solution used was not recent enough.

In my experiments I employed the protosulphate in crystals instead of in solution, and I am inclined to think that, when the bilge-water to be disinfected is in considerable quantity, crystals ought to be preferred. In fact, protosulphate of iron, soon after being dissolved, undergoes reduction by oxidation, which diminishes its disinfecting power. I tried the effects of a recently-made solution, composed of three ounces of crystals to eight ounces of water, and then of a solution of the same strength which had been kept some time. The former, which was of a greenish color, acted powerfully on fetid bilge-water, whereas the latter, which, at the end of a week, had become reddish in color, and had thrown down a precipitate like brick-dust, exerted no sensible action.

It is my opinion, then, that in practice the crystals of protosulphate of iron ought to be placed in the bilges without being previously dissolved,

and a freshly-made solution used for washing down the boards and wood-work.

5. *Permanganate of Potash*.—I now come to the last of the disinfectants tried by me, and, I may add, the best. The powerful action of this substance on the odors exhaled by suppurating surfaces is, at present, well known. The medical journals, and in particular the *Gazette des Hôpitaux* and the *Bulletin Général de Thérapeutique*, have called attention so emphatically to this point, as to give rise to very great expectations from this new agent.¹ For my own part, I had seen in the hospital practice of several of the Paris surgeons, and particularly in that of Dr. Demarquay, as well as in my own, such admirable results from its disinfecting action on wounds, as to cause me to think that it might be found of great use for the purification of ships' bilges.

I made use of a solution of permanganate of potash, of the strength of half an ounce of crystals to a quart of water. One ounce and a half of this solution, which has a fine crimson color, added to a pint of foul bilgewater, effectually removed all bad odor in three minutes, with change of color to a dirty grayish-brown. Five ounces of solution in four quarts of stinking bilge-water produced the same result. Two quarts of solution sufficed to destroy rapidly the bad smell of the after-bilges of the Jerome Napoleon.

The purifying action of permanganate of potash is so remarkable, that its success in the disinfection of putrid matters of every kind may safely be assumed. I have derived the greatest advantage from its use for many other sanitary purposes besides those just mentioned. It not only effectually destroys the foul odors arising from suppurations, and from putrefying and fecal matters, but it acts likewise on many other odorous substances. I will cite a curious fact in confirmation of this. Having one day inadvertently imbued my hands with a concentrated solution of carbolic acid, I could not rid myself of the penetrating and offensive smell. Repeated washings with soap, followed by applications of vinegar, chloride of lime, and ammonia, failed to remove the odor. Being on the point of attending a consultation to which I was very reluctant to carry so nasty a smell, I was in despair. The idea came into my head to dip my fingers in permanganate solution. The first application caused a notable diminution of the carbolic odor; after the third it had entirely gone. Struck with the result, I afterwards repeated the experiment, which each time succeeded perfectly. This fact cannot fail to prove useful to those who may have dissections and *post mortems* to make.

I am satisfied that all those of my fellow-medical officers who shall repeat my experiments on board their ships, will obtain the same good results from permanganate of potash. But there is, unfortunately, against this valuable agent a somewhat serious objection, which may for some considerable time impede its general use: its commercial price is excessively high. There can, however, be little doubt that, when it shall have become an article of current sale, and an industrial instead of a laboratory product, the price will rapidly diminish.² At all events, the present high price of

¹ The very earliest notice contained in any French medical writing of the disinfecting properties of permanganate of potash, appeared in the *Gazette des Hôpitaux* of the 4th of October, 1862, and was occasioned by the remarkable success of the experiments made by Dr. Demarquay at the *Maison Municipale de Santé*, in consequence of the good effects which that gentleman had witnessed at the London hospitals, when he was in this country during the International Exhibition of 1862. At that time the discovery of the disinfecting properties of the alkaline permanganates had already been more than six years before the English public, and there had been read at the *Académie de Médecine* of Paris the year previous, namely, on the 17th of September, 1861, a memoir on the subject by Mr. Condy, the author of that discovery. The latter was the very first occasion on which this matter had ever been publicly spoken of in France.—Tr.

² This is precisely what has taken place in this country, thanks to the enterprise of

permanganate of potash need not, even now, prevent its employment with great advantage in a considerable number of cases, because of the superior rapidity and efficacy of its action.

Conclusions.—1. Wood charcoal is radically inefficient and inapplicable.

2. Chlorine and chloride of lime are hurtful as well as inefficient.

3. Carbolic acid is of no use, and has an insupportable odor.

4. Protosulphate of iron may for the present be preferred; it is sufficiently active to be of considerable use, and very low in price.

5. Permanganate of potash is infinitely superior to all the preceding substances, and is destined to put them all into the shade so soon as it can be sold at a figure permitting its use on the large scale. Even its present price is no bar to its employment, when it is necessary rapidly and completely to purify a ship's fetid bilges.

2.—*Disinfectants and Deodorizers.* [British Medical Journal.]

M. Verstrael, in a paper read before the Academy of Sciences, of which the *Chemical News* gives an abstract, proposes to attain the conditions required of disinfectants by the following processes: 1. To decompose the sulphide and carbonates of ammonium, the chlorides are employed, either of iron, zinc, or preferably manganese. Sulphates are absolutely proscribed, for the reason that the putrefying matters react on the sulphate of ammonia formed by double decomposition, the final result being the evolution of sulphuretted hydrogen, so that after a little time it is necessary to disinfect a second time. The chloride of manganese proposed as a disinfectant would be obtained from the chlorine residues of manufactories, a product which is stated to be valueless. The residues contain too much hydrochloric acid to be immediately available; the acid is neutralized either by the oxides of iron or zinc, or by dolomite. By this saturation of hydrochloric acid with lime and magnesia, the value of the product as a manure is greatly enhanced. Experiments on a large scale showed the product to be very rich in nitrogen and in phosphoric acid, and the fluid after this treatment was found to contain no phosphoric acid. Manganese, as well as magnesia, has been demonstrated by the recent works of M. Peligot to be easily assimilated by plants. To render the action of the chloride of manganese still more efficacious, 5 litres of chloride of lime solution of 12° are added to 100 litres of the manganese solution. 2. Notwithstanding the value of the disinfectant thus prepared, metallic salts by themselves can effect no complete and permanent disinfection; no influence will be exerted upon the offensive odor, *sui generis*, of the refuse matter. The antiseptic agent introduced for this purpose is tar solidified by admixture of cinders, deprived of sulphurous compounds by exposure to the air for fifteen or eighteen months. In this mixture are contained a considerable quantity of sulphate of alumina, 15 or 20 per cent. of finely-divided carbon, 50 or 60 per cent. of nitrogen and protosulphate of iron and silica in small quantity. In the place of the solidified tar, the heavy oil-of-tar residues has been employed with equal success. Lastly, to clarify refuse water, a solution of impure sulphate of alumina, employed in the dose of a kilogramme per cubic metre, has been found to give very remarkable results; this solution serves to clarify the liquid and to cause the deposition of the solid matter. A cesspool of 20 cubic metres in Rue des Jeuneurs was treated with 650 kilogrammes of manganese and 30 kil-

Mr. Condy, who has been enabled to apply to its manufacture on the large scale, economical methods which are out of place in the laboratory. At the date of his patent, permanganate of potash could not be sold under 80s. per pound; the price now of a pint of concentrated solution is 1s.—Tr.

ogrammes of chloride-of-lime liquid, then 180 kilogrammes of the aluminous powder with tar. After the liquid had been agitated and allowed half an hour's rest, it was clear and inodorous. The sanitary inspectors and other critics who witnessed the experiment, testified that the matters were completely disinfected. After the liquid had been poured off into the sewer, the atmosphere of the receptacle was tested by the lowering of a light, after which two workmen descended, who found no other odor than a slight one of benzol.

3.—*The Influence of Weather on Sickness.* [Medical Times and Gazette.]

Dr. Ballard, in his Report on the Health of Islington, for 1867, thus aphoristically states the influence of the weather on sickness:

1. That an increase of atmospheric temperature is normally associated with an increase of general sickness. 2. That a decrease of atmospheric temperature is normally associated with a diminution of general sickness. 3. That for the most part the increase or decrease of sickness is proportional in amount to the extent to which the atmospheric temperature rises or falls. 4. That it is an error to suppose (as is popularly held) that sudden changes in temperature are (as a rule) damaging to public health. A sudden change from cold to hot weather is indeed very damaging; but a sudden change from hot to cold is one of the most favorable circumstances that can occur when sickness is regarded broadly as respects a large population. 5. That, remarkably enough, these influences are most marked in the directions I have mentioned in the colder season of the year, and more certain in the winter than in the summer. 6. That rises and falls of temperature are more certain and effectual in their special operation upon public health when at the same time the daily range of temperature is lessened, than they are when the daily range is at the same time increased; rises of temperature increasing sickness more certainly and markedly, and falls of temperature decreasing it more certainly and markedly. 7. That a fall of rain lessens sickness generally, sometimes immediately, sometimes after a short interval, and that, as a rule, the reduction of general sickness is greater when the fall of rain is heavy than when it is light. 8. That drought, on the other hand, tends to augment general sickness. 9. That wet weather in the summer season operates more certainly in improving public health than it does in the winter season.

SURGERY.

1.—*On Resection of the Knee-joint.* By R. G. H. BUTCHER, M. D. [British Medical Journal.]

At the close of a clinical lecture on this topic, Dr. Butcher laid down the following rules, which he had learned from a strict investigation of the subject, and from careful study of the practical management of his own cases:

1. *The Judicious Selection of the Case.*—The bones not being diseased far beyond their articular surfaces, which if upon section found to be a little more thick had been expected, the part should be gouged out, or an

additional thin slice removed; but if to a greater extent, amputation should be at once resorted to, and, as recorded in my work on Operative Surgery, with a hope of excellent success. Again, amputation, as I have shown, may be performed some days after excision, should any unfortunate circumstance in the management of the case demand it. I have recorded seven instances of amputation of the thigh, and all made rapid recovery save one.

2. *The H-Incision should be preferred*; and the perpendicular strokes placed well back, so as to allow all fluids and discharges to drain off; far more effective and safer than any opening made in the popliteal space. No portion of the flaps should be curtailed, though they may be thinned of any thickened fibrinous matter or diseased synovial membrane; the latter, particularly, should be clipped away with a strong scissors. All ligamentous fibres, both around and within the joint, should be cut through, and the extremities of the bones fairly freed and exposed, great caution being taken not to break up the anterior wall of the popliteal space.

3. *The Patella should be taken away in all Cases, whether diseased or not*, and then the section of the bones, well thrust out in front, should be made with "Butcher's saw," from behind forward, due attention being paid to the axis of the thigh-bone at the time of its division.

4. *All bleeding vessels should be tied, or any that have sprung and retracted, should be drawn out and secured*, so as to guard against intermediary hæmorrhage.

5. *While the patient is yet on the operating-table, the limb should be placed in the horizontal position, either by gentle and steady traction, combined with pressure of the cut surfaces of the bones backward, or, if necessary, the division of the hamstring tendons.* Their support behind, in every case, I look upon as of great value, therefore their section must be looked upon as a last expedient toward straightening the limb.

6. *During the adjustment of the bones, great caution should be exercised that their surfaces be throughout their extent in contact, and that no soft parts intervene.*—The flaps should be then laid down and connected by suture closely throughout their transverse division, while the lateral incisions should be brought together only at their extremities by one or two points, and the central portion of each—that corresponding to the division of the bones—should not be brought into contact, but dressed lightly with lint soaked in oil, thus securing a ready outlet for the escape of fluids. The extremity should next be cautiously laid upon "Butcher's box-splint," padded to the natural configuration of the limb, its sides elevated, foot-board applied, suitable pads introduced, and then the anterior splint laid on, taking the place of the assistant's hand, which, from the first, restrained the femur from projecting forward; then the straps buckled, the waistband applied, and the patient may with safety be removed to his bed. The bed should be prepared in this way, and consist of a couple of hair mattresses, laid one upon the other, evenly supported, and intervening between the upper one and the sheet, a folded blanket, with feather pillows for supporting the head and shoulders; the bed should be likewise moderately warmed, so as to prevent the patient from being chilled when put into it.

7. *The limb should not be disturbed for several days*, the length of time depending a good deal on the season of the year when the operation is performed, whether it be in the heat of summer, or the cold of winter. After five or six days it may be necessary to let down the sides of the box-splint, to remove discharge, change lateral pads, and soiled dressings, etc. By the apparatus named, the facilities for cleansing the limb are so efficient that it may not be requisite to lift the member from its support for even so long a period as six weeks, as evidenced in my own practice.

Should, however, it be considered expedient to change all the dressings, the anterior splint should be steadily held back by assistants, and the limb pressed up to it, thus guarding against any starting of the femur forward or displacement laterally when lifted from its bed. When the box is prepared and freshly arranged, the limb, controlled after the manner mentioned, should be laid down, the side-splints elevated, foot-board secured, and the straps over the anterior splint first tightened, so as to maintain it in that position, from which it was never suffered to change. I would impress the advice still further; if the straps be loosed for any purpose, *the hand of an assistant should steadily keep the anterior splint in its position*, and well pressed back, until the artificial support is again brought to bear upon it and fastened.

8. *In cases where large abscesses form in the vicinity of the excised joint, or up along the thigh, Chassaignac's drainage-tubes may be used with the best hopes of success.*

9. *The free administration of stimulants and sedatives is imperatively demanded in all cases of excision, regulated to a certain extent by age, sex, temperament, and habits.*

2.—On Puncture of the Knee-joint in the Treatment of Synovitis. [Indian Medical Gazette, June, 1869.]

Prof. Fayrer, of Calcutta, in a communication to the above-named journal, reports five cases in which he resorted to this procedure with entire success. He remarks:

The access of air to the opened synovial membrane is regarded as a great source of danger, as it is almost certain to set up irritation, followed by inflammation, which, passing into the suppurative stage, rapidly induces disorganization of the tissues that enter into the formation of the joint, and gives rise to constitutional disturbance, the precursor of surgical fever, which, if amputation be not performed, either wears out the patient by hectic and exhaustion, or destroys life more rapidly by the toxæmic changes due to osteomyelitis or other sources of pyæmia.

Notwithstanding the danger of opening the knee-joint, it has long been resorted to as a surgical operation for the removal of foreign bodies, such as loose cartilages, from its cavity; but the opening has been made in a valvular form, and with every precaution to exclude the air. It has, moreover, been found necessary to prepare the patient for this operation by rest and confinement to the bed or couch, for it has been observed that, when the operations were performed without taking these precautions, dangerous and even fatal inflammation has followed. Some surgeons, to avoid actually exposing the cavity of the joint to the chance of the entrance of air, have effected the removal of the cartilage by a double operation. The first fixing it by a subcutaneous incision to the parietes of the joint, the second performed after the first wound had healed, removing it altogether. In the so-called *hydrops articuli* of the knee, a form of chronic synovitis, the joint has been tapped like a hydrocele, and a solution of one part of tincture of iodine and four parts of water injected, with similar results to those with which the same method of treatment has been practised in hydrocele, the excitement of a moderate and modified form of inflammation, and the consequent absorption of the fluid.

The chief source of danger, however, appears to be the access of air, or, perhaps, according to more recent views, not so much the air itself as the organic germs that pervade the air, and that, if this can be avoided, the risk of destructive inflammatory change is much diminished. If such be the case, the use of carbolic acid, on the antiseptic principle, seems

likely to be of service, and may render a wound of the knee-joint a less formidable accident than it has hitherto been considered.

That the method of treating effusions into the joints by paracentesis and the injection of iodine is a good one, we can understand from the analogy of hydrocele, and it is fortunate that this particular agent, iodine, seems to have comparatively little tendency, even when exciting severe inflammation, to cause suppuration. But still we cannot but feel that it is attended with great risk in the case of an important organ like the knee-joint, and as yet I have not ventured to test its merits. My experience, however, enables me to speak with confidence of simple paracentesis of the joint in the treatment of inflammation, and, as I believe it is capable of affording great and rapid relief from pain, as well as of expediting recovery, I have no hesitation in recommending it; but it must be borne in mind that the operation is to be performed with the greatest care, and that every precaution be taken to exclude the air.

In performing the operation, Prof. F. used a small trocar and canula, and made a valvular puncture.

3.—*On the Treatment of Acute Orchitis.* By FURNEAUX JORDAN, Esq. [British Medical Journal.]

Mr. Jordan's paper, of which the following is an abstract, was read at the late meeting of the British Medical Association:

The author referred to the variety of orchitis sometimes called epididymitis, which was usually acute or subacute, and which followed or was consecutive to urethral lesion, especially gonorrhœa and gleet. The treatment consisted in the application of a strong solution of nitrate of silver to the serotum of the affected side, followed by gentle pressure. The first occasion on which Mr. Jordan adopted the treatment was in the case of an in-patient of the Queen's Hospital, Birmingham, suffering from gonorrheal rheumatism of the knee. An acute synovitis of one knee was cured, as most cases are, in twenty-four hours, by nitrate of silver applied almost to vesication. Then acute orchitis set in, a strong solution of nitrate of silver was applied; and, in twelve hours, swelling, pain, and tenderness had disappeared. For several years he had uniformly adopted this treatment, and with unvarying success. It did not possess the heroism of a knife-plunge into the testicle or into the tunica vaginalis, but it was as quick and effective in its results as the bolder methods.

4.—*Holt's Operation for Stricture: Death from Pyæmia, exhibiting Remarkable Features.* By Mr. HAMILTON. [Medical Press and Circular.]

Although the treatment of stricture by Holt's method is now generally allowed to be a valuable addition to the surgery of this disease, still it cannot be denied that it is attended with some risk, and, in the adoption of a practice which has many strenuous advocates, the observation of unfortunate cases must afford a valuable lesson.

T. F., aged 62, a pensioner, of dissipated habits, was constantly in the habit of coming to hospital with retention of urine, on exposure to cold or the commission of any excess. On some of these occasions considerable difficulty was experienced in passing a small catheter. A very tight stricture was found at the anterior part of the bulbous portion of the urethra. The difficulty of introducing instruments was frequently much increased

by spasm, and the mucous membrane was always in an irritable condition. Having often expressed a desire for some permanent relief, it was determined to adopt the method of Holt. He was accordingly kept quiet in bed for some days, and the urethra dilated with cat-gut bougies, until Holt's dilator could be readily passed into the bladder. The operation was performed on Saturday, June 27th, the strictures having been burst. A catheter, No. 8 size, was passed into the bladder, the patient was treated with quinine and opium, as directed by Mr. Holt.

June 28th.—He has had some shivering during the night; he complains of severe pains in the lower limbs, with hyperæsthesia and partial loss of motor power; passes water freely and without pain; there is no tenderness or fulness in the perinæum; pulse 120, and feeble. Ordered wine and beef-tea.

29th and 30th.—Appears better, but still complains of soreness and complete loss of power in the lower limbs; no rigors or sweating; no tenderness in the perinæum.

July 1st.—Very much worse; the pulse at wrist scarcely perceptible; complains of pain and powerlessness of the lower extremities; tongue dry and brown; the surface of the body is covered with an eczematous rash, having a dark areola; the mental faculties are perfectly clear; he complains of irregular pains in the chest and abdomen. The respiration became very difficult some hours before death, which occurred at ten P. M.

Autopsy twelve hours after Death.—The eczematous eruption still remains on the surface. The inferior wall of the urethra has been burst at the point of stricture into the corpus cavernosum. Some pus issued from the bottom of the fissure on pressure. The cavity of the bladder was small, but its coats immensely hypertrophied, with numerous sacculi leading off from it; the ureters were much dilated; the kidneys tolerably healthy; the surface of the lungs was thickly studded over with an eruption identical with that on the surface of the body; the liver and other intestines were likewise spotted in a lesser degree; no deposit of pus could be discovered in any part; the muscular system seemed perfectly healthy; no abnormal appearance of the joints was discernible. The features of this case are interesting in some respects. The fatal termination must be attributed to a form of systemic infection, but there are many peculiarities in the symptoms, the paralysis of the lower limbs, the sensibility of the skin and muscular pains; the absence of rigors, sweating, or delirium; the appearance of the eruption on the surfaces of the body and viscera, are all uncommon. There can be little doubt that pyæmia is the chiefest source of danger in this operation, and the occurrence of suppuration in such a structure as the corpus cavernosum, must be a condition specially favorable for its development.

5.—*The Etiology and Nature of Pyohæmia.* [Paris correspondence, *Lancet*, June 19, 1869.]

This much-vexed question is now being discussed at the Academy of Medicine. It was set upon the *tapis* by M. Alphonse Guérin, surgeon to the Hôpital Beaujon, who communicated the notes of a case of pyohæmia, in which the employment of sulphate of quinine had brought about a cure. It is now twenty years since M. Alphonse Guérin declared himself a staunch advocate of the zymotic theory of purulent infection, and he still upholds the same view. He has been struck by the strict analogy between the symptoms of malarial fever and those of pyohæmia, and this has led him to the free employment of sulphate of quinine as a specific therapeutical agent, which he considers as being the only safe remedy wherever success may be expected. In the discussion which followed the communication of this

case, the curability of pyohæmia was admitted by the academicians. Several cases of cure have already been recorded; and that of M. Alphonse Guérin, in which the real presence of pyohæmic symptoms does not seem to admit of a doubt, is to be added to those of Bonnet, Follin, Sédillot, Vidal, Gosselin, Broca, Verneuil, etc., to mention only the French observers. The general sentiment of the Academy seemed to incline, however, toward the opinion that in such cases the favorable termination took place spontaneously, and not through the employment of sulphate of quinine, or any other therapeutical agent.

At the last meeting of the Academy, the discussion took a loftier flight, and entered on the domain of speculation and theory. The septic and zymotic theories of pyohæmia have met with two ardent advocates in the persons of MM. Verneuil and Guérin. The latter, to support the facts of the case which he related, developed to its fullest extent the zymotic theory of pyohæmia, which he considers as an infectious and specific disease, often contagious, epidemic, endemic, and sporadic, and due to the absorption of a peculiar miasm, which he compares to the vegetable miasm of malarial fever. He insists on the etiological conditions of the disease—namely, the agglomeration of the wounded, etc.; the analogy between the development of purulent infection, and of telluric infection, typhus, and other zymotic diseases; the absence of any degree of concordance between the local phenomena of the wound and the rapidity or intensity of the symptoms of infection, etc. On the other hand, M. Verneuil warmly defends the views which have been propounded by the German school, and notably by Billroth—namely, the septic theory of pyohæmia. According to these observers, pyohæmia is only one form of a peculiar condition which attends traumatic destruction, is characterized by traumatic intoxication, and is due to the absorption of septic matter developed in wounds and suppurating surfaces. Purulent infection is therefore only the termination of traumatic intoxication; and, in order to understand its nature, it is necessary to investigate synthetically all the febrile phenomena observed in the wounded. As is well known, Billroth ranges the different phenomena which attend traumatic lesions under four headings: traumatic fever, secondary inflammatory fever, septicæmia, and pyohæmia. The two theories are, therefore, quite distinct.

It is not my object to insist, however, on the different points which distinguish them, nor on the objections which each has encountered, my readers being fully *au courant* of the question. I wish merely to relate what ideas are now entertained in this country touching this most important question of pathology, and thus show what progress it has made here. Until now nothing new—I mean as carrying conviction to the mind—has been advanced at the Academy by the two orators I have named; M. Alphonse Guérin having set forth *de novo* the views which he propounded about twenty years ago in a thesis, and M. Verneuil having only, in a brilliant extempore discourse, related the theories which have recently been advocated in Germany and in England. The question will, however, again be discussed at the forthcoming sittings of the Academy; and, if no collection of facts or experiments, definitely settling the question, be brought to light, at least some good may be expected from the proper discussion of existing theories.

This was M. Verneuil's *début* at the Academy; and his friends and admirers, who knew his varied abilities as an elegant and fluent orator, were not disappointed in the expectations which they had formed of his maiden speech.

6.—*The Harmlessness and Advantages of Thoracocentesis.*
[Paris correspondence, *Lancet*, June 19, 1869.]

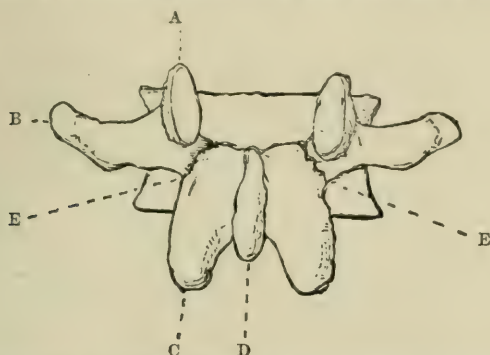
In the able report which M. Besnier has just read to the Medical Society of the Hospitals, on the medical constitution of Paris during the months of March and April, there is a very interesting remark touching the harmlessness and benefit of thoracocentesis. During the period referred to, twenty-five cases of severe pleurisy had occurred in the various hospitals. The operation was performed in fourteen cases with complete success; and it was observed that the patients who were punctured recovered much more speedily than those in whom the slowness of the effusion did not seem to necessitate any surgical intervention. In four of the cases wherein the operation was performed, the effusion was not abundant, and the effects proved quite as satisfactory. These results speak highly in favor of thoracocentesis; and the time may come when the operation will be performed in cases of slight pleuritic effusion, to the utter neglect of blisters, purgatives, diuretics, and depletive measures, which often weaken the patient, and cause him great suffering.

7.—*On a Fracture of the Arch of the Lumbar Vertebrae.*
By JEFFRIES WYMAN, M. D. [Boston Medical and Surgical Journal, August 12, 1869.]

The separation of the arch of the lumbar vertebrae, here described as a fracture, is often noticed in the preparation of skeletons, but we have not seen it mentioned by either anatomical or surgical writers. Dr. Frank H. Hamilton, however, in the second edition of his treatise on fractures, in referring to an account of this injury communicated to him by the writer, states that it appears to be undescribed. Attention is now called to it because it appears to be a distinct species of fracture, though a comparatively unimportant one, and has characteristics as constant as those of the fracture of the neck of the femur, or of any other bone which has received a specific name. The only fractures of the arch of the vertebrae, described by systematic writers, are either through the laminae between the spinous and articulating processes, through the spinous process itself, or through the pedicle. The one before us takes place in quite a different direction, as regards the arch of the vertebrae, and has been thus far noticed only in the lumbar region, and, in consequence of the structural peculiarities leading to it, is likely to happen only in this region.

These peculiarities are as follows: In the dorsal region the arches are characterized by the breadth of their laminae, and by having the transverse processes implanted just between the articular ones, where, in consequence, the arch becomes greatly strengthened, in fact has its greatest strength. In the lumbar region the transverse processes are thrown farther forward, so as to rest more upon the pedicle, while the upper and lower articulating ones become more widely separated from each other, the lower ones being carried downward, and the bone connecting them so contracted as to form a somewhat slender neck; thus the part in question becomes the weakest instead of the strongest portion of the arch, as will be seen in the figure at the lines of fracture, E E. In a series of vertebral columns, however, this condition exists in different degrees; in some the neck referred to being quite strong, in others so slender as to be easily broken, and in others more or less intermediate in strength. When the neck is broken at the lower articular processes, the laminae and the spinous process become detached from the rest of the vertebrae, leaving the upper articular processes and the pedicle connected with the body.

In all the cases examined, the fracture was either in the fourth or fifth lumbar vertebra, and remained ununited. The opposing surfaces of bone have the usual roughness, and, in some instances, the neighboring parts are the seat of irregular bony deposits. In two, the surfaces have been worn smooth by mutual friction. In a single instance the fracture existed on one side only. The elasticity of the neck on the unbroken side is such as to allow the broken surfaces to be separated from each other for the distance of half a millimetre, and to allow, also, some lateral motion.



Fifth lumbar vertebra seen from behind. A, upper articulating process; B, transverse process; C, lower articulating process; D, spinous process; E E, neck and line of fracture.

To the seven cases of the fracture of the arch of the lumbar vertebrae formerly mentioned to this Society (Proceedings, October 22, 1862), four others may now be added, all from Indian skeletons, viz., two, both of the fifth lumbar vertebra, from an ancient cemetery in Kentucky; and two, one of the fourth, and the other of the fifth, both from the same individual, from an ancient cemetery in Florida.

The question naturally arises whether the condition we have assumed to be a fracture may not be considered an arrest of development, and consequently only a permanent separation of parts, distinct in the fœtus, but which in the ordinary course of things become united in the adult. In answer to this objection, it may be said that the only place where a non-union of the arch might occur from such a cause would be either at the joining of the pedicle to the body, or on the median line when the laminae join each other. The fracture in question does not occur at either of these points, but at a place where no separation exists in the fœtus at any period of development.

The causes to which the fracture might be ascribed are chiefly two: one, a forcible bending of the body backward, and the second the shock resulting from falling or jumping from a height in such a way that the shock is transmitted from above downward through the pelvis. In this last case, in consequence of the obliquity with which the vertebral column rests upon the sacrum, and the yielding of the inter-vertebral substance, the momentum of the trunk tends to displace the column forward on the base of this bone. The chief resistance offered to such displacement would be from the lower articular processes of the fifth lumbar vertebra as they press against the upper ones of the sacrum. An analogous tendency to displacement would of course exist at the union of the other lumbar vertebra with each other, which would be exerted in an analogous manner. As,

however, the neck described above becomes stouter the higher up it exists, the greatest liability to fracture is in the lowest part of the column.

We know of no recognition of the existence of this fracture during life, and it is not probable that any marked symptoms would occur in connection with it other than those which might be ascribed to a severe strain.

8.—*On the Seat of Ligature in Wounds of Arterial Branches.*
[British Medical Journal, July 3, 1869.]

Dr. Roser lays it down as a rule in operative surgery that, in hæmorrhage from arterial branches, the ligature should be applied to the seat of injury, and never to the main trunk of the vessel. He agrees in the view that was held by Guthrie, that the latter proceeding is more likely to be followed by bad results, and, in consequence of the multiplication of seats of suppuration, to end in septicæmia and death. Local deligation and removal of clot and secretions from the original wound are more likely, in Roser's opinion, to end in recovery. Dr. Ravoth, on the other hand, holds that the question as to the seat of ligature must be decided according to the nature and seat of the wound, the changes of the involved tissues, the position of the wounded vessel, and the condition of the surrounding parts. He cites, in proof of this assertion, a case of wound of the palm, attended by hæmorrhage, which could be arrested only by compression of the ulnar and radial arteries together, or of the brachial. In spite of firm local pressure, and the application of perchloride of iron, the hæmorrhage was frequently repeated, and presented itself in a thick stream of blood on the thirteenth day, when the patient, a man aged sixty-three, was seen for the first time by Dr. Ravoth. The hand and arm were considerably swollen, the palm was occupied by a large tumor, and its soft tissues were in a state of mortification. A ligature was applied to the brachial artery; the hæmorrhage was immediately arrested; no inflammatory symptoms followed the operation, and the patient, on the twenty-eighth day, was cured. Roser, in answer to Dr. Ravoth's paper, states that in this case local deligation ought to have been attempted, as the application of a ligature to the brachial artery of a patient so advanced in years might readily be followed by dry gangrene of the extremity.—Schmidt's *Jahrbucher*, No. 3, 1869.

9.—*Ether Spray in the Reduction of Hernia.* [Medical Times and Gazette, May 29, 1869.]

M. Demarquay long since showed the utility of pulverized ether in preventing pain during the operation for hernia, and M. Chavergnac now brings forward seven or eight cases to show that this agent may be usefully employed in obtaining the reduction of hernia without operation. The anæsthetic effect of the vapor allows of the performance of taxis without pain, save a disagreeable sensation of burning in the parts in contact with the ether. It is, however, the intense chilling produced by the pulverized ether, so much greater than that produced by merely pouring the fluid on the part, that is the important feature. Its suddenness leads to the rapid condensation of the gases enclosed in the strangulated intestine and the diminution in volume of this. Its effects are superior to those produced by ice, because the vapors of the ether come in contact with every part of the tumor, and while ice slowly reduces the temperature from 0° C. to -4°, in less than a minute *rectified* ether lowers it to -15°. Sometimes these effects, owing to the great heat and tension of the parts, are not produced immediately, and the application then has to be repeated two or three times.—*Presse Belge*, May 9, from *Abeille Méd.*

10.—*Recovery from Purulent Infection under the Use of Quinine.* [Idem.]

At the last meeting of the Académie de Médecine, M. Alphonse Guérin related a case of purulent infection, which gave rise to an interesting discussion. He believes that it has been an error on the part of surgeons to regard this "surgical typhus" as necessarily fatal. When cases have recovered they have been declared not to have been true examples of purulent infection. However, a case occurred last autumn at M. Guérin's Hospital about the nature of which there could be no doubt. The patient, admitted for a crushed thumb, three weeks afterward exhibited well-marked symptoms of purulent infection, which went on to the production of metastatic abscess in the calf. Quinine was exhibited in large doses—viz., one drachm (per diem, we presume)—and the patient left the hospital cured. Some time after he hung himself, and at the autopsy his liver was found presenting a characteristic umbilicated cicatrix of a healed abscess. This, therefore, M. Guérin regards as a case of purulent infection cured by quinine. M. Gosselin freely admitted that this was a case of recovery from purulent infection, such as is every now and then met with. He has met with two instances of recovery in well-marked pyæmia coming on after amputation. But it is a very different question whether the recovery in this case was due to the large doses of quinine which were given, seeing that cases sometimes do recover where this has not been given. M. Guérin observed that he had met with several other cases the recovery of which he attributed to the large doses of quinine that were given, and the reason why he had selected this one to lay before the Academy was, that it offered an irrefutable proof that recovery had taken place. M. Verneuil, although he had not met with cases of recovery in his own practice, had witnessed in that of others indubitable instances. But, for a metastatic abscess to become cured, it is requisite that it should be under the skin or so placed in a viscus that it could obtain spontaneous issue; and it is quite evident that such an abscess lodged in the kidney or the brain could not be cured. For this reason, M. Verneuil doubts whether the abscess of the liver of which the cicatrix had been exhibited was really a metastatic abscess at all, but rather simply the result of infarctus of the liver, so often met with in autopsies after various diseases. M. Broca observed, that no one at the present day can doubt the curability of purulent infection, and in his own practice he has met with four examples of this. These were all well-marked cases, in which metastatic abscesses were produced, and the patients in the highest peril. As to the conclusion concerning the effects of treatment, he feels the same reserve as M. Gosselin. He has given large doses of quinine in the disease, and still lost his patients, and to the present time he can rely on the efficacy of no medicinal substance. He believes the best practice is to "tonify" the patient, and to this end he gives tonics, rum, wine, "Todd's potion," etc.

"What, in fact, is purulent infection? It is, if I may be excused the expression, a kind of struggle between the economy and a septic agent. This is shown by the experiments of Trousseau and Dupuis, and more recently of Sédillot, for if a small quantity of pus is injected into the blood of an animal the animal resists, but, if additional quantities are thrown in, it succumbs. What is best to be done is to endeavor to render the economy sufficiently strong to resist during this struggle. I am of opinion, then, that recovery from purulent infection may take place spontaneously, but I do not believe there is any medicinal agent that will bring it about. I am, moreover, convinced that there are several kinds of purulent infection, and that there are cases in which the symptoms are less grave than in others, and in which there is a chance of recovery. I sum up with saying,

then, that I believe in the curability of the affection; and I will even go further, in adding, that I also believe that there are cases of purulent infection in which the patient has never for an instant been in danger of his life."

M. Briquet is a believer in the efficacy of quinine in this affection. It is evident, he observed, that each shivering-fit increases the purulence, and if we can arrest the paroxysms of purulent fever we gain the more chances of a recovery, and that quinine can arrest these paroxysms is his firm belief. M. Hérard drew attention to an observation by M. Guérin, that he the more believed that the quinine had been efficacious in this case because it had been so well tolerated by the patient, and that he would have been more doubtful on the point if there had been singing in the ears, cephalalgia, and the various other signs of commencing intoxication by quinine. For his own part, M. Hérard would come to exactly the opposite conclusion, for he would only rely upon the presence of the ordinary physiological effects, as proof of its therapeutical action. In fact, there is no proof whatever in this case of M. Guérin's that the quinine was absorbed.

11.—*Perforation of the Bladder by a Calculus.* [Virchow's Archiv, and Medical Times and Gazette.]

Dr. Mendel relates the case of a lady, 62 years of age, who came under his care January, 1868, on account of a urinary calculus in the vagina, which was expelled thence during a violent cough. Its presence had given rise to great febrile irritation, and had led to various erroneous diagnoses. The calculus measured 8 centimetres in its long diameter and 6½ transversely, its largest periphery measuring 23 centimetres. It weighed 173 grammes when dry, and was found to be phosphatic. It had caused much suffering during six years, perforating the posterior wall of the bladder and the anterior wall of the vagina, the urine being involuntarily discharged through the vagina during three years and a half. At length it passed into the vagina, but instead of being immediately expelled, it accumulated around it new deposit, and was detained six months within that cavity. Cases of perforation of the vagina by urinary calculi are mentioned by P. Frank, Scanzoni, and Erichsen.

12.—*On the Impacted Fracture of the Neck of the Thigh-bone, more particularly with Reference to Diagnosis.* By THOMAS BRYANT, Esq., F. R. C. S. [British Medical Journal.]

The author commenced his communication by dwelling on the importance of the diagnosis of cases of impacted fracture, and that, too, in the very earliest period of the case, and expressed an opinion that the diagnosis of such form of injury is not one of difficulty. He referred in complimentary terms to the work of Professor R. W. Smith, of Dublin, and stated his own investigations tended to support the opinions of that eminent surgeon. He believed, with Mr. Smith, that all extracapsular fractures of the neck of the thigh-bone are in the first instance impacted fractures; and that many intracapsular fractures, and all the mixed forms, are of a like kind. The impacted bones are loosened in some cases by a second fall, in others by excess of violence received in the original accident, and in too many instances by the surgeon in his anxiety to make out the presence of a fracture by the detection of crepitus. He said that this looking for crepitus, in all cases of fracture, is a practice of considerable dan-

ger; in fractures of the neck of the thigh-bone it is not only unnecessary but it is unjustifiable. It is unnecessary, because the diagnosis of the case can be made out without the help of such a symptom; it is unjustifiable, because in every case of impacted fracture the attempt to find it is attended with irreparable mischief. Twelve cases of impacted fracture were then read in detail, and some preparations exhibited. The following summary of the symptoms, by which the nature of the injury was determined, was then given. In all, the injury to the hip-joint was communicated through the trochanter. In all, as an immediate result of such an accident, there was more or less complete inability to move the limb; but in two of the cases the patients, when in a recumbent position, could slightly flex the thigh upon the pelvis, and in one instance rotate the limb. In all, the injured limb was found to be shorter than its fellow by almost an inch, and in no case did careful extension make any perceptible diminution in the amount of shortening present. In all, the foot was either slightly everted or straight, but in no case was it everted as it is usually in the non-impacted fracture. In one case, however, this eversion was less marked than in the sound limb. In all, the head of the femur could be made to rotate in the acetabulum, and the trochanter moved with it. In few of the cases was crepitus felt, and when felt it was indistinct. In all the cases, the major trochanter was clearly placed nearer the median line of the body than on the sound side, and nearer also the anterior superior spine of the crest of the ilium. The author concluded by expressing his belief that the symptoms enumerated clearly indicated an impacted fracture; and stated that, as a rule of practice, it would be far safer to regard all cases of injury to the hip-joint, received through the trochanter, as examples of the impacted fracture, and to conclude only that such was not the case when the symptoms clearly proved a different condition to exist, than to leave the suspicion of such a form of injury out of consideration altogether, or only to entertain the idea of its presence when the symptoms which the case presents are clearly inconsistent with the existence of any other form of recognized injury.

13.—*Colotomy for Intestinal Obstruction due to Cancer of the Rectum.* By Sir HENRY THOMPSON. [Medical Times and Gazette.]

This case presented several very remarkable features. The patient, a young man aged 23 years, was admitted in October last for malignant disease of the lower part of the rectum. A hard and roughly-nodulated mass occupied the lower third of the rectum, and gave rise to extreme constipation, great suffering following every evacuation. An attempt was made to remove the growth by means of the *écraseur*, and this so far succeeded that the patient was enabled to pass his motions with comparative ease, and even to return to his business in the city for a short time. Nothing more was heard of him until the day before the operation, when he applied at the hospital with severe constipation of fourteen days' standing. On examination a mass of cancerous growth was found occupying the rectum, and completely occluding the canal. It was quite impossible to remove so large a mass, and the only thing which remained to be done was to relieve the present very urgent symptoms. Sir Henry remarked that, after consultation with Mr. Erichsen, whose experience of these cases was very large, and who had witnessed the first operation performed by Amussat, he had determined to open the colon in the left lumbar region. The difficulty of the operation entirely depended upon the degree of distention of the colon; if this should prove to be distended, the operation would prove

an easy one ; but if it were contracted, great difficulty might be experienced in opening the bowel behind the peritonæum.

The operation was then performed in the ordinary way, and the bowel easily reached ; it was much distended with flatus. After the operation the patient had a full dose of opium, and the wound was lightly covered with carbolic-acid dressing. He has been greatly relieved by the operation, but suffers from a sense of pressure upon the lumbar region. There is also considerable difficulty in passing water. The object of the operation being merely to relieve the urgent distress consequent upon the intestinal obstruction, and the progress of the disease being necessarily fatal, the case may be considered a successful one.

OBSTETRICS AND DISEASES OF WOMEN.

1.—*Successful Case of Vaginal Cæsarean Section.* By HENRY RISTINE, M. D. [Medical Record, January 15, 1869.]

I was called on Tuesday, February 2, 1868, to see Mrs. B., the mother of four children, the youngest of which was eight years old, whom I found in an apparently advanced stage of labor.

From the character of the pains when I first entered the room, I supposed that the labor would be of short duration, but, upon making a vaginal examination, was surprised to find a plain smooth surface about the size of a ten-cent piece, occupying the place of the os uteri, no trace of which could be discovered. I at first considered this to be a membrane thrown over the os, from obliquity of the cervix or from some other cause, which would yield to the pressure of the child's head, and, after remaining with her a number of hours, and making several examinations, without any progress being made, I gave her a dose of morphine, for the purpose of giving her a little rest, which had the desired effect.

I watched the case, which now gave promise of being a tedious one, and made examinations from time to time until the succeeding Thursday, when I called in Dr. J. S. Love, of Springville, who agreed with me in the conclusion that delivery could only be accomplished by mechanical means. As she had been resting under the influence of morphine for some hours, it was decided to give Nature another trial before making this resort. During the night the pains returned with increased intensity, and continued until morning, when, no progress having been made, she was again brought under the influence of morphine to prepare her for the operation.

This was delayed, from various reasons, until evening, when Dr. Holmes was called in, who administered an anæsthetic of equal parts chloroform and ether. The patient readily came under its influence, and an incision was made, through an ordinary glass speculum, which had been cut off for the purpose, at the point where the os uteri was supposed to have originally existed, and carried obliquely upward about two inches on either side. Upon making an examination through the opening I observed the placenta detached, and lying near the orifice, the uterus being filled with coagula.

After removing a large quantity of this, with the placenta, I discovered that, in addition to the other complications, we had a transverse presentation to contend with. With some difficulty I passed my hand through the mass of coagula, and succeeded in finding the feet, turning and delivering an eight-pound child, which had arrived nearly at full term. Having in-

sented a tent within the newly-formed os, to prevent adhesion of its lips during cicatrization, the anæsthetic was withdrawn, and she soon recovered from its effects.

The patient made a good recovery, retarded, however, by the supervention of a troublesome mammary abscess.

2.—*Post-partum Retention of Urine.* [Medical Press and Circular, March 10, 1869.]

M. Mattei read last week a communication on this subject before the Paris Academy of Medicine, of which the conclusions are as follows:

1. Retention is commonly attributed to two causes—swelling of the urethra in consequence of contusion, and vesical atony.

2. Catheterism in such cases indicates a cause as important as these alluded to.

3. During the last period of pregnancy, the bladder being drawn upward along with the uterus, the urethral canal is necessarily elongated; so that, after delivery, the uterus descending brings the bladder with it, and the urethral canal is necessarily shortened by twisting and folding on itself.

4. It is difficult to obviate this accident; but the administration of one or two grammes of ergot after labor, by provoking retraction of the uterus, encourages also the vesical retraction, so as to render retention less frequent.

5. If catheterism be requisite on failure of this resource, the instrument should be left free to follow its own course through the temporary tortuosities of the urethra.

6. Catheterism, when necessary, readjusts the canal so perfectly that it is not required after one or two occasions. If it be found necessary to repeat it frequently, it is evident that we have to deal, not with closure of the urethra, or contusions, or even vesical inertia, but rather with paralysis of the organ, which will require other treatment.

3.—*Singular Obstetrical Case.* By T. W. PERRY, M. D. [Boston Medical Journal, March 25, 1869.]

The following case occurred in my practice, Sunday, December 13, 1868. At 1 p. m. was called to an Irishwoman in labor with her first child. Moderate pains commenced soon after midnight, but became severe by 7 or 8 a. m. These continued increasing in severity until the termination of the labor. The child was born as I entered the room. I separated the cord, and gave the child into the hands of an attendant. There was a laceration of the scalp, extending from near the top of the right ear across the parietal bone and suture to the opposite parietal bone, making a wound four inches in length; there was a fracture of the right parietal bone in a straight line across, one inch in length; the bone was denuded of its periosteum to the extent of about one-half the size of a silver half-dollar—the whole making a frightful-looking wound. There was also a laceration of the perinæum of the mother, extending down to and back of anus, not rupturing the sphincter ani, but going around and back of the anus, like the half of the letter S. I brought the parts in apposition with four lead sutures, put in deep, tied the knees together, and got a good union.

Regarding this as a case of great interest, I called Dr. Caswell, who kindly assisted in dressing the wounds. Both mother and child are doing well. The patient was attended by an old woman with whom I have been well acquainted for years, and who is, in my opinion, incapable of malice.

She was also surrounded by half a dozen other women, among them the mother of the patient; apparently, there was no possible way for the child to have received this wound from any of the attendants. Neither Dr. Caswell nor myself could discover any spicula of bone from the bones of the pelvis. Suppose this child had been dead born, and no person present except the mother, and this wound had been on the head of the child, the question would be, Who or what killed the child?

A few nights since, I was called to attend a servant-girl, alone in an attic, and the child was still-born. Suppose the wound had existed on this child's head, what ought to have been my testimony? Could such a wound be produced by natural process of labor? I have been in the practice of medicine twenty-four years, and during the past twelve years have seen a great deal of midwifery, but have never seen a case resembling this; neither has my partner, Dr. Capron.

March 1, 1869.—I examined the child's head this day. The wound healed by granulation. Several small pieces of bone have exfoliated, leaving a portion of the brain, about the size of a silver half-dollar, unprotected by bony covering.

The laceration of the perinæum healed satisfactorily.

4.—*Labor subsequent to the Cure of Vesico-vaginal Fistula.*

From Proceedings of the Dublin Obstetrical Society, February 13, 1869. [British Medical Journal, February 27.]

Dr. A. H. McClintock read a paper on a case of labor subsequent to the cure of large vesico-vaginal fistula. Cases of this kind, he said, were comparatively rare. He referred to the recent work of Mr. Baker Brown, in which about eighty cases of operation for vesico-vaginal fistula were detailed, and in only two of these was labor recorded to have taken place subsequently to operation. In one of these cases the fistula was small, and was closed by four stitches; in the other it was a mere pin-hole. In the case he was about to detail the lady was tall, well-made, and, at her first confinement, aged twenty-two. The labor had been protracted, especially the second stage; the catheter had not been used; delivery was accomplished by the forceps; and the child, a male, was still-born. He attributed the sloughing to the length of time that pressure was permitted to exist, the bladder being at the same time distended. The lady had been operated on eight times by Dr. Campbell, of Montreal; the fistula was of large size, requiring nine or ten stitches. In June, 1864, she was delivered at the eighth month of a living boy, and afterward a final operation was performed, by which the fistula was completely closed. She became pregnant for the third time, and last September sought the advice of the late Dr. Hardy, who expressed his opinion that there was no need to induce premature confinement, and predicted that the labor would not tear open the fistula, as there was ample room. She was seen subsequently by Dr. McClintock, who gave the same opinion, and she was confined on the 2d of January of a living child, without any reopening of the fistula or rupture of the cicatrix. Dr. Beatty detailed a similar case which had come under his care, in which delivery had taken place eighteen months after the operation. The fistula was transverse, and no rupture took place. Dr. Kidd gave the particulars of three such cases which had been treated at the Coombe Lying-in Hospital. One had been operated on by Dr. Sawyer, and was subsequently delivered at the full time without accident. In the second case he was the operator. The fistula admitted two fingers, and was transverse, and within a year that patient was safely delivered of a child at the full time, and since then she had been delivered a second time,

without any bursting of the cicatrix. In the third case, he had the advantage of Dr. Churchill's assistance; and this case, he believed, was the first case in which the operation for fistula was performed without button or splint in Dublin. This patient was delivered subsequently twice by the forceps, and once naturally, without accident. He thought it was most useful to record these facts, as proving that we need not be timid in allowing a woman to come to her full time after operation for fistula. Dr. Mac-Swiney gave the particulars of a case which he knew to have occurred in the practice of the late Dr. Banon. The delivery was safely accomplished subsequently to operation. Dr. McClintock thought it would be important to note the length of time which elapsed between the closure of the fistula and subsequent delivery; and he thought the direction of the cicatrix was important, as the transverse would be much less likely to be ruptured than a longitudinal cicatrix. Dr. Churchill thought the direction of the fistula a most important item in the calculation of the danger of rupture or reopening. They all knew the difficulty they had to encounter in the vertical recto-vaginal fistula; if the bowels were moved daily, the straining was liable to tear open the fistula; and, on the other hand, if they were not moved, matters were rendered even worse by accumulated fæces.

5.—*Puerperal Convulsions successfully treated by Transfusion of Blood.* [Medical Record, March 15, 1869.]

Prof. Lange, of Heidelberg (*Prag. Viertel Jahrschrift*, 4th part, vol. 100), reports a case of puerperal convulsions successfully treated by transfusion. From the beginning of pregnancy, the patient had noticed slight œdema of lower eyelids and considerable swelling of the ankles and lower portion of the abdominal walls. The uterus contained an unusual amount of amniotic fluid. On entrance into the hospital, three weeks previous to labor, the urine was found to contain albumen and casts in considerable quantity.

The œdema began soon to extend upward to the thighs, while the abdomen formed a pendulous sac. Œdema of back of the hands was now apparent, otherwise the patient felt well and had a good appetite.

On setting in of labor, eclamptic convulsions and consecutive sopor occurred without any premonitory symptoms. These were repeated so rapidly that three attacks occurred before the patient could be carried into the lying-in room. The urine became nearly solid upon action of heat.

Colpeurysis was employed to hasten labor, and delivery of a macerated fœtus took place seven hours after, during which sixteen attacks in all had taken place. The placenta followed, and the uterus contracted without hæmorrhage. Immediately after delivery of the placenta, an attack, equal in intensity to the previous ones, occurred. In the succeeding seven hours, seven further attacks occurred. As the anæmic appearance and œdema of the patient kept on increasing, Prof. L., fearful of employing venesection, applied leeches to the head, also ice. Clysters, repeated injections of morphia, and inhalation of chloroform, were employed, but without result. Thirty-two attacks in all had taken place since the first convulsion. There had been no return of consciousness since the first attack (except for a single moment), but the patient lay in profound sopor, with stertorous rattling respiration.

Reasoning that, in any case, whether we adopt the uræmic theory of Frerichs, the hydræmic theory of Troltz and others, or whether we consider both hydræmia and uræmia to be at the foundation of the malady, the principal indication would be to restore the normal condition of the blood as rapidly as possible, he determined to try the effect of transfusion of blood. While fourteen ounces of blood were drawn from the median

vein of the left arm, seven ounces of defibrinated blood were injected in three portions into the same vein of the right arm.

The pulse became smaller and more rapid; the respiration became freer, and the cyanosis of the countenance diminished. After half an hour, the thirty-third attack occurred, which was of less intensity, of short duration, and the last one the patient had. Perspiration broke out, and in half an hour more she was no longer stertorous, and showed the first signs of returning consciousness in indistinctly articulating the word thirst, and swallowing, with difficulty, some water. She soon after fell into a quiet sleep, in which she remained until morning. Convalescence continued without interruption, under suitable dietetic measures, and the patient was dismissed in a good condition.

6.—*Suggestion of a New Method for Treatment of the Pedicle in Ovariectomy.* By J. F. MINER, M. D. [Buffalo Medical and Surgical Journal, June, 1869.]

I have proposed for myself, and desire to suggest to others, a plan of separating the tumor from its attachments to the pedicle which appears to my mind as feasible, at least in some instances, and, where practicable, as having decided advantages. A few months since I was invited to remove an immense ovarian tumor occurring in the person of Mrs. Foster, of Cattaraugus County, N. Y. It was of years' standing, had been repeatedly tapped, but at length the contents proved too thick to be drawn through even the largest-size canula, and, the distress becoming too great for endurance, any operation which would end it, whatever might be the result, was gladly accepted. The tumor was multilocular, very large, weighing, as near as could be ascertained, between seventy-five and one hundred pounds. It was attached throughout its entire circumference to the omentum, intestines, walls of the abdomen, and all other parts in which it came in contact. These attachments were not so firm but that they could be broken up, and with great care the tumor was separated from the surrounding parts until the pedicle was reached. The process of enucleation had been carried on so extensively and successfully that encouragement was afforded for continued trial; the pedicle was large and extended over a wide surface, but by gentle and patient effort it was separated from its entire attachment to the tumor, and the immense growth removed without the ligation of a single vessel. The terminal branches of the vessels of the pedicle gave out no more blood than issued from the vessels of the attachment elsewhere, and there appeared no more occasion for ligature here than elsewhere. All hæmorrhage soon ceased, and the incision was closed by interrupted suture.

The success of this procedure was complete, and the patient continued for more than two weeks without a single untoward symptom; so long that her recovery seemed almost certain. She now commenced to lose her relish for food, grew weak and desponding, and died from exhaustion on the twentieth or twenty-first day after the operation. The fatal termination of the operation detracted nothing from the success of this mode of treating the pedicle; indeed, so remarkable were the size and attachment of the tumor, that any attempt at recovery is surprising, and yet the feeble, emaciated, exhausted patient continued to improve long enough to show that the manner of treating the pedicle was at least in her case unobjectionable. Upon these facts is partly based the suggestion that the pedicle in ovariectomy can, in some cases at least, be separated without ligature or cautery, thus avoiding many dangers attending it. At first this proposition will appear startling, and surgeons who have tied large vessels in the operation, or who have witnessed the fearful hæmorrhage which

sometimes takes place from slipping of clamp or ligature, will regard it with surprise, and perhaps without trial look upon it as wholly impracticable. I should myself, probably, be among this number, had I not had opportunity to demonstrate to my own mind, certainly, its entire feasibility. The ovarian tumor is generally composed of a firm, dense, fibrous cyst, containing fluid of very varied color and composition. It may, and it may not, have a solid portion, but usually it does have more or less of a body, the remnant of an enlarged or degenerated gland. Upon the surface of this smooth, dense cyst are spread out the vascular, fibrous, cellular, and other tissues which compose the pedicle, but only the terminal branches of the vessels enter this cyst; the vessels may be quite large at their origin, but soon they are numerously divided and enter the cyst, if at all, of capillary size. The attachment of the pedicle to the cyst is more easily broken than any one would mistrust who has not attempted its separation in the manner described, and I am confident that the same efforts which are made to break up adhesions to the peritonæum, omentum, and other parts, if extended to the pedicle, will, many times, be equally successful.

If this method can be adopted without hæmorrhage or other difficulty, its advantages are apparent. The pedicle can then be returned into the abdominal cavity without any of the objections which have been urged against this procedure. There is no ligature to be discharged by the ulcerative process, or to become encysted, or to induce inflammation. There are no purulent or inflammatory products to be in any way removed or provided for; the pedicle is wholly a living tissue, and has no irritative qualities which render its return to the abdominal cavity objectionable. This cannot be said of it when treated by any other known method.

It is probable that all cases are not suited to this mode of procedure; indeed, it may be only a small proportion which can be disposed of by this method, but, that in some instances this plan can be carried out, is to my mind certain. The inquiry is often made, How do you *prefer* to treat the pedicle in ovariectomy? and a brief answer to this very pertinent question will close my suggestions on the subject.

First, then, I would enucleate the tumor without ligature. If I found this impracticable, I would, secondly, apply ligature and fasten the pedicle in the lower angle of wound with the suture pins, leaving ligature outside the pins, so that the slough and all the products of inflammation should be external. The pedicle being short, and vessels small, I would, thirdly, select, without much choice, between the actual cautery and arrest of hæmorrhage upon the principle of acupressure, that is, a needle with ligature attached, passed transversely through the pedicle, weaving it in such manner as to make pressure upon the vessels sufficient to arrest the circulation. Where this method can be made effectual, it approaches very near in point of favor to enucleation without ligature, since the needle can doubtless be very early removed, and the parts beyond the point of its introduction need not be strangulated or the vitality destroyed so as to produce slough. Ligature applied and pedicle returned with the ligature extending out of the lower angle of wound, or cut short and allowed to take care of itself, or each vessel ligated separately and pedicle returned, and all similar methods, are not to be chosen; they may be accepted as a final resort where all other resources fail. I have not spoken of the clamp, which is sometimes applied and allowed to rest outside the wound, retaining the grasp of the pedicle. It is scarcely worth while to speak of it, for no good can come of its being used and thus retained.

7.—*A Third Series of 100 Cases of Ovariectomy, with Remarks on tapping Ovarian Cysts.* By T. SPENCER WELLS, M. D. [Lancet, May 15, 1869.]

The author has arranged in a table all the cases in which he has completed the operation of ovariectomy, from the 200th case included in previous papers to the 300th. In other tables he gives particulars of all his incomplete and exploratory operations. He finds that the mortality lessens as experience increases. Of the first 100 cases, 34 died, and 66 recovered. Of the second 100, 28 died, and 72 recovered. But of this third series of 100 cases, only 23 died, and 77 recovered.

The author has endeavored to ascertain what influence tapping ovarian cysts may have upon the mortality of subsequent ovariectomy, and he has arranged in a table all his cases where tapping had never been done, and those in which it had been done from once to sixteen times. The general mortality of the 300 cases was 28.33 per cent. Nearly one-half of the patients, or 135, had never been tapped. In them the mortality was 27.40 per cent.—not one per cent. less than the average mortality. Rather more than one-fourth of the patients, or 78, had been tapped once. In them the mortality was 25.64 per cent. There were 19 who had been tapped three times, and the mortality was 26.32. Of the 36 who were tapped twice the mortality was exactly the same as that of the group of cases tapped from four to sixteen times—namely, 33.33 per cent.

The author is led by these facts, and by other considerations discussed in the paper, to the following conclusions:

1. That one or many tapings do not considerably increase the mortality of ovariectomy.

2. That tapping may often be a useful prelude to ovariectomy, either by giving time for the general health to improve, or by lessening shock when the fluid is removed a few days or hours before removing the more solid part of an ovarian tumor; and

3. That when the siphon-trocar is used in such a manner as to prevent escape of ovarian fluid into the peritoneal cavity, and of entrance of air into the cyst, the danger of tapping is very small.

Dr. West agreed with Mr. Wells as to tapping being of service, especially as a preliminary operation which might satisfy the surgeon, the patient, and her friends. In most cases the patient cannot be said to die of the tapping. We were apt to be dazzled by the success of ovariectomy. He would not speak so, were it not necessary for him to, as it were, recant his former opinions. He could, therefore, with greater grace advocate the use of the minor operation. He would ask if any one now used iodine after tapping?

Mr. Spencer Wells, in reply to Dr. West, said that he had lately conversed with M. Nélaton and M. Boinet, who had both large experience in the treatment of ovarian cysts by iodine injections, and he found that they had both arrived at the same conclusion as his own experience of seven cases would lead to. Of his own seven cases, only one patient was alive who had not since undergone ovariectomy. This one was still in tolerable comfort nearly ten years after the injection; but a rather large cyst could still be felt. If a cyst was unilocular, with thin walls and limpid contents, then, after tapping and injecting iodine, a radical cure occasionally followed. But it was very doubtful whether iodine had much or any thing to do with the cure, because tapping alone, without the use of iodine, in this form of cyst was also occasionally completely successful. No more fluid was secreted, the cyst collapsed, its walls probably coalesced, and after a time no trace of it could be detected by the most careful examination. When the contents of a cyst are viscid, iodine is quite useless. In such

cysts, and in multilocular cysts generally, injections of iodine should be restricted to cases where for some reason ovariectomy cannot be performed, but where a cure may be hoped for after suppuration and drainage. Here washing out the cavity, once or twice a day, or oftener, with plenty of iodine in solution, becomes very useful, by deodorizing the offensive secretions, and probably by preventing absorption of putrid fluid and blood-poisoning.

8.—*Case of Extra-Uterine Fixation existing for an unknown Period, but under Observation for Two Years and Two Months; Ulceration into Rectum; Death.* By THOMAS DAVIS, M. D. [Med. Press and Circular, June 30, 1869.]

Bridget Devanny, aged thirty years, admitted to the Manorhamilton Workhouse Infirmary on the 30th of January, 1867. She was sent here from one of the Scotch poorhouses.

The history she gave on her admission was, that she had been married at eighteen years of age, had borne a premature child about a year after her marriage. That her husband deserted her before her child was born, and she had not seen him since. For a length of time she had suffered from obstructed menstruation, attended with epileptic fits, for which she had been under medical treatment in Glasgow Infirmary, and subsequently in a Union Hospital. Her countenance was pale, inclined to a yellow color, the lips showing the characteristics of epilepsy; the pulse weak, quick, and fluttering, but the heart-sounds were distinct and normal, and the lungs apparently all right. On examining the abdomen when she lay on her back, I discovered a tumor in the region of the left ovary, over which she had been deeply cupped. The treatment she received was giving iron freely with cod-liver oil and nourishing food. After a month or so, the fits became less frequent, but otherwise the medicine seemed to have no beneficial effect. Some weeks there would be obstinate constipation of the bowels. At other times profuse perspirations would be troublesome.

About the month of July, 1867, when she had been six months under treatment, retention of urine set in. I was then inclined to look upon it as hysterical, but, hysterical or otherwise, most troublesome it proved, as for several months she never passed a drop of water except what was removed by the catheter.

In the month of September, 1867, while I was absent from home, my friend Dr. Shaw, who was acting for me, removed from the vagina what he supposed was a large polypus in a putrid state. After this there was no more trouble from retention of urine. Even at this period nothing unusual could be observed on examining with the speculum. The os uteri was close, presenting the appearance of a very small slit, and not congested looking; but, as far as I could judge, the uterus was pushed by the tumor toward the right. Singular as the admission may seem, I admit that it was only at this stage of the disease, and after the diseased or decayed mass was removed by Dr. Shaw, that the true character of the disease I had to contend against dawned on me. Very shortly after the removal of the fleshy mass from the vagina a new phase of the disease showed itself—namely, discharges of thin black blood from the umbilicus, which returned at intervals of three or four weeks, and thus continued from December, 1867, until the end of the year 1868, the quantity discharged being on some occasions marvellous, and during these periods some of my medical brethren who saw the case were inclined to look upon the discharges as vicarious. From time to time, during the early part of the year 1868, while these discharges were recurring, I removed masses of decayed flesh

from the vagina, smelling most intolerably, and she constantly used lotions with chlorine iod.

On the 1st of July, 1868, she complained that something sharp was cutting her inside, and on examination of her vagina I found embedded in the posterior wall of the vagina, and extracted what proved to be the rib of a foetus, which measured three inches in length and half an inch in breadth. On carefully examining after its removal, the os uteri was still small and contracted, the bone seemed to have come from the left of the uterus, and the vagina looked injured in the posterior wall.

On the 24th of the same month I removed in the same way, with very little difficulty, a portion of a foetal femur, divested of cartilages, which measured two inches and a half. About four weeks afterward she seemed to be suffering excruciating pain from some obstruction in the lower bowel; and on this occasion I removed from the rectum, with my curved forefinger, a piece of flat bone, evidently one of the bones of a foetal head; and in a few weeks more I removed in the same way a lumbar vertebra. From this date (the 20th September, 1868) until the early part of the month of January, 1869, I removed from time to time, sometimes with the aid of the speculum, and sometimes without it, various masses of decayed flesh and pieces of bones.

While I write, several of these are before me, with the dates of their removal marked; namely, a femur nearly perfect, a second less so, two ossa innominata, two ribs, several vertebrae, and bones of the head, with some unrecognizable spiculæ.

From the date of the first removal of bone, the bloody discharge from the umbilicus diminished, and the patient's sufferings were mitigated, except when a spicula of bone became embedded in the wall of the vagina, or was grasped by the sphincter ani, then her sufferings were painful to witness.

Early in January, 1869, it seemed as if her constitution had triumphed over all her ailments, the discharges ceased, the digestive functions became more regular, the appetite and strength improved, and she sat up daily in bed; but about the 1st of April she was attacked with diarrhœa; the tongue assumed an aphthous appearance; her strength rapidly gave way; the character of the alvine discharges became more fetid and unhealthy looking, and on the 19th of May she died.

A *post-mortem* examination, thirty-six hours after death, showed, on opening the peritonæum, a considerable quantity of straw-colored serum, smelling abominably, with white particles of lymph or pus floating in it. The intestines all presented a dark-red appearance, in some places approaching a purple color. The uterus was of an average size, neither congested nor displaced, as I expected to find it; but matted at the posterior part to the rectum, which was livid and black. I could discover no separate cavity where the foetus had lain; it seemed to have been loose in the common peritoneal sac, and to have been of that form termed abdominal extra-uterine foetation, although no trace of the foetus now remained, except the marks of inflammation and ulceration which it had caused in the rectum and vagina.

The cause of death was registered as extra-uterine foetation, with ulceration of rectum.

9.—*Rupture of Uterus. Recovery.* From Report by Dr. H. B. BUCK. [Chicago Medical Examiner, August, 1869.]

By request, the following very interesting case is furnished [by Dr. C. E. Parker, a practitioner of thirty years' experience, late from Beardstown, Ill., and now (having retired from the profession) a citizen of our own city:

Was called, August 9, 1862, at 2 o'clock P. M., to visit Mrs. R., residing about twelve miles from B. Mr. R. stated she had been in labor during the night, in charge of a neighboring midwife, who at noon reported "a portion of the child born, and something wrong." Arrived at 3½ P. M.; found the patient upon her back, in nearly a sitting position, chest flexed upon the abdomen; lower limbs drawn up. She reported her labor as having been very severe up to 11 o'clock, at which time, after a very violent expulsive effort, "something seemed to give way; all pain ceased, and a strange sickening sensation followed." The head of the child protruded at 9 o'clock A. M. On manual examination, found a mass of material protruding, consisting of child's arm, a portion of placenta, and a large mass of something which I never met with before. On ocular examination, found a large mass of the intestines protruding from the vulva; the partially-expelled placenta was easily withdrawn; the hand cautiously introduced, the intestinal coils pushed up before it; found the child in the abdominal cavity; the left foot directly under the liver at its upper portion; the right on the opposite side of the abdomen; cautiously drawing them together, version was gradually produced; the arm slowly returning as the feet were drawn down. The body of the child was extracted readily, but the head brought down a large mass of the intestines, which were with difficulty returned and retained. On minute examination, found a rupture of the uterus on its left posterior lateral portion, the rupture extending through the os tincæ and a portion of the vagina. Allowed her to remain in the same position until all drainage had ceased, then placed her in a horizontal position, hips much elevated, and applied bandages and compresses calculated to prevent further protrusion of the intestines, and ordered them to be kept saturated with cold water. Gave an opiate, and left her, supposing the injury in itself sufficient to produce death—my manipulations making that result only more certain. The next day Mr. R. called upon me to visit her again. My engagements, the distance, and extreme heat, prevented. Gave him a note to Dr. P., a very worthy and scientific practitioner, residing only three miles from the patient, requesting him to visit her, and to do all in his power to make her comfortable. On the 12th, received a note from Dr. P., desiring me to meet him at Mr. R.'s. Found her quite comfortable, and desirous of sitting up. The question for decision, the admissibility of a cathartic. Examined, could detect the fissure in the vagina and os tincæ, but the union seemed firm, but little abdominal soreness, and no pain except when turning in bed, which the temperature, 98° above, rendered frequently necessary. The cathartic operated kindly, and she was up and about as early as in her six previous labors. Some time during 1865, she was safely delivered of a child without assistance, save what was rendered by neighboring women. This fact is vouched for by a lady who knew them intimately, and had seen the child repeatedly. I learned this but a short time since, they having removed to a neighboring county some distance, and I having left B. and the profession. In its first phase, I consider the case unique; in its second, I have never heard its parallel.

10.—*Traumatic Atresia of the Vagina.* By B. H. CHENEY, M. D. [Idem.]

Mrs. A., aged twenty, primipara. Dr. Heise was asked to visit this case in consultation with Dr. Bacon, of Lockport. Patient had been twenty-four hours in strong labor, with no progress. Dr. B. stated that he had not been able to ascertain the presentation, as he could not introduce the finger into the vagina. Dr. H., attempting an examination, found the canal completely occluded by a tense, firm membrane, about one-third of an inch

from its external orifice. There was a small opening, sufficient to admit a good-sized probe, at the upper or pubic part of this membrane, but no justifiable force could make way for the finger. Through this opening the waters had discharged some ten or twelve hours previously, since which time the patient had been in strong labor, with constant expulsive pains. The husband being asked if he had ever had complete connection with his wife, replied that "he had;" but, on being questioned closer, stated that he "had some time ago, but not recently." On being pressed for his knowledge of any cause for her present condition, he acknowledged that he had been married only about two months, that he had had sexual intercourse with his wife some time previous to their marriage; that, finding herself *enceinte*, they had procured the services of an abortionist, who had operated upon her for fifteen minutes with a wire, and pronounced the operation complete; that after this operation she was sick, and confined to her bed for six weeks, purulent and bloody discharges taking place from the vagina.

Inasmuch as the passage of a probe through the orifice in the membrane showed a cavity beyond it, Dr. H. hoped it might be the only obstruction. On dividing it, however, he found still others, in the form of fibrous bands, stretching obliquely across the vaginal canal, interlacing with each other, the whole length of the vagina, and very firm and strong. Carefully dividing these, the foetal head was plainly felt in the first position, and the patient was soon delivered of a healthy child. Severe inflammation of the vagina, womb, and peritonæum, supervened, and she died on the ninth or tenth day thereafter.

THEORY AND PRACTICE.

1.—*Treatment of Diabetes by the Peroxide of Hydrogen.* By Dr. CLIFFORD ALLBUTT. [Lancet, July 31, 1869.]

The great hopes which were entertained of the action of this remedy seem to be fading away. Dr. Allbutt has given the solution of peroxide of hydrogen and the so-called ozonic ether a long and careful trial in four cases of diabetes; but the want of success in each case has deterred him from submitting any more diabetic patients to the same useless procedure.

The four cases were chosen as representing four degrees of severity of the disease. The patient, who was taken as an example of the extreme stage, was treated with increasing doses of peroxide of hydrogen for six weeks. No good effects were noticed, and the patient died a short time after the discontinuance of the medicine.

Two of the cases were in private practice, and two were in the infirmary. The therapeutic experiment was carried out in the infirmary with great care. The two patients were taken in at the same time, and their weights, quantities of urine, amounts of water drunk, and specific gravities of urine, were taken daily. For about ten days they were placed on an ordinary diet (some restriction in the quantity of potatoes and bread only being made), and the daily variations noted. The peroxide of hydrogen, the purity of which was guaranteed, was then given in increasing doses, until the two patients were taking half an ounce of the liquor every six hours. In one, the slight daily decrease of weight was arrested for a day or two; but this was apparently accidental, as it soon recommenced. It was intended to publish the columns containing the daily weight, water drunk, urine passed, and specific gravity; but, as no important variations were

seen in them on administration or withdrawal of the medicine, it seemed unnecessary. Both patients improved subsequently on carbonate of ammonia and restricted diet, though one of them, as stated above, ultimately died. The peroxide of hydrogen was given for about two months in each case.

2.—*On Typhus Ewanthematicus.* By Dr. JULIUS THEURKAUFF, of Lehre, in Brunswick [Edinburgh Medical Journal, December, 1868.]

After an elaborate paper, the author gives the following *résumé* of his results:

1. The occurrence of spotted typhus is favored by overcrowding, bad ventilation, insufficient, and particularly vegetable food, and mental depression.

2. It is propagated by contagion, mediate or immediate.

3. One attack diminishes, but does not destroy, liability to another.

4. The period of incubation is usually from fourteen to nineteen, never less than eight days.

5. The period of desquamation is favorable to contagion.

6. It affects more men than women, and most frequently people in the prime of life.

7. The contagiousness diminishes the more the disease is propagated from one to another.

8. It lasts from eleven to seventeen days; if the illness is prolonged, it is from the occurrence of complications.

9. The cutaneous symptoms are especially characteristic by the measly rash, which appears on the third or fourth day, and disappears five or six days afterward; it affects the trunk and extremities.

10. The petechiæ are not constant, merely complications. They arise mostly independently of the measly spots, but may originate with them.

11. Miliary eruption is much rarer than in typhoid, and was never observed along with petechiæ.

12. In the third week furfuraceous desquamation of the skin occurs, and afterward the hairs fall off.

13. The nervous symptoms are irritation during the period from the commencement of the fever till the rash is disappearing, thereafter depression until convalescence is established.

14. The temperature in the earliest days reaches 31.5° to 32° R., and increases to 32.5° to 33° at the perfect formation of the rash, without marked remission. During the continuance of the rash that temperature is kept up, but in the mornings there may be remissions to the extent of $\frac{1}{2}^{\circ}$ or 1° . As the rash disappears the temperature falls, and the morning depression is more distinct. During convalescence it may fall below the normal standard.

15. The frequency of the pulse and the respiration is not uniformly related to the temperature, and can only be used with caution in judging of the fever.

16. The quality of the pulse is also various, and may be materially modified by the strength of the patient. It is generally full, weak, and compressible. The dichrotism, though rarer than in typhoid fever, is met with during the stage of the eruption. It results from a momentary interruption of the contraction of the heart, which in rare cases produces a double systole.

17. The urine, usually red and turbid, is up to the fading of the rash constantly diminished and of high sp. gr. (1020 to 1028); from that time to the end of the disease the quantity increases, and it becomes less dense.

During convalescence it may fall to 1006 to 1012. There is rarely any sediment. It speedily becomes alkaline, especially in the nervous stage.

18. Catarrhal inflammation of the conjunctiva, the mucous membrane of the nose, the throat, and the bronchi, is constantly present, and most marked during the existence of the rash.

19. The tongue resembles that of typhoid.

20. Constipation is common; diarrhœa is an occasional complication.

21. Bleeding from the nose and gums is common.

22. Enlargement of the spleen appears before the eruption is most marked, at the beginning of the second week (four times the natural size), but the organ is, at the end of the disease, of normal size.

23. Death occurs usually at the climax of the disease from the severity of the malady, or in the third or fourth week from complications.

24. The anatomical changes, corresponding to those of typhoid, excepting in the intestinal lesion, are, fluid oily appearance of the blood, congestion of the brain and its membranes, softness and brownish color of the muscles, bronchial catarrh, congestion of the liver, normal bile, enlargement of the spleen.

25. The diseases which the exanthematic typhus follows are, typhoid fever, small-pox, chronic dysentery, and pneumonia.

26. The diseases with which the exanthematic typhus was associated were, syphilis, epilepsy, jaundice from calculus, tuberculosis, and emphysema.

27. The chief complications are, angina crouposa, catarrh of the intestine, inflammations and ulcerations of the larynx, bronchitis, lobular and lobar pneumonia, parotitis, herpes, and decubitus gangrenosus.

28. The prognosis is rendered unfavorable when unhealthy individuals are attacked, or by the occurrence of high fever, nervous symptoms, numerous petechiæ, hæmorrhages, rapid alkalescence of the urine, and important complications.

29. Good ventilation is most important.

30. Treatment must be expectant symptomatic.

31. Emetics and calomel in heroic doses neither cut short nor alleviate the disease.

32. Warm baths, calomel, and opiates in small doses, are useful as relieving symptoms.—*Virchow's Archiv*, April and June.

3.—*Cold-water Treatment of Typhus Fever.* [Medical Press and Circular, April 7, 1869.]

E. Brand, in a work recently published at Berlin, confirms the observations of Jürgenssen as to the efficacy of cold water, applied externally, in the treatment of typhus. The propriety of a repetition of the cold water he would decide by its effects in the reduction of the temperature of the patient's skin. He directs the application of the cold water to be resorted to and persisted in whenever the temperature at the armpits rises to, and continues at, 39.50° Cent. Jürgenssen directs this whenever the temperature within the anus is at 40° Cent., and, to prevent a rise in the temperature subsequently to the use of the cold bath, that the patient, without being wiped dry, should be put to bed and have his breast and abdomen covered with cloths wet with cold water. By this treatment Dr. Brand maintains that, in cases of abdominal typhus, the occurrence of intestinal ulceration may be prevented, the only inconvenience in any case being the occurrence of a slight catarrhal affection. By this method of treating typhus, only from four to six cold baths were required in the course of the twenty-four hours. Dr. B. claims for the treatment of typhus, by applications of cold water to the surface, when employed from the commencement of the

attack, the promptitude and efficacy of almost a specific: by it, he asserts typhus (including the exanthematic form) may be materially shortened in duration, and its mortality very much reduced.—*Centralblatt f. d. Medicinisch. Wissenschaften*.

4.—*Fatal Case of Chorea in an Adult.* Reported by ROBERT FARQUHARSON, M. D., Assistant-Surgeon Coldstream Guards. [British Medical Journal, Sept. 5, 1868.]

J. A., aged 19, suffered in December, 1862, from articular rheumatism, during which aortic regurgitant disease of the heart became developed. The *bruit* was at first unattended by symptoms; but pain, palpitation, and dyspnoea, gradually set in, and rendered him unfit to perform the duties of a soldier. On February 11th he had a slight relapse, which rapidly subsided under alkaline treatment; and the 16th found him tolerably free from pain. He was observed, however, to be restless and fidgety, twitching his face and jerking his body; and he became rapidly worse until the 18th, when he presented the phenomena of chorea in their most aggravated form. It is difficult for language to give any idea of the excessive force and variety of the muscular contortions which had now taken complete possession of his frame. He perpetually tossed about, struggling against restraint and every now and then was seized with an almost tetanic spasm, bending the body into the form of a bow. Consciousness was not impaired, and he endeavored to answer questions, but could not talk intelligibly. The movements continued with unabated vigor until next day, when they were observed to be entirely confined to the left side. This change, however, brought no relief to his sufferings, as he grew more violent than ever, and was with difficulty kept in bed by two powerful men. The urine was copious and limpid, specific gravity 1013. Toward evening he became quieter, and apologized to those around him for the trouble he was giving; but this amendment was of brief duration. The choreic symptoms returned with great intensity; and death, preceded by rapid sinking, took place at 8 A. M.

The treatment included most of the principal sedative and narcotic remedies, which speedily lost their soothing influence on the nervous system. The hypodermic injection of morphia at first produced good results, and chloroform caused a few minutes' refreshing sleep; but it was found, on repetition, that the action of these drugs was unfortunately very transient. Lastly, cannabis indica was tried; but forty minims of the ethereal tincture caused so decided an aggravation of the symptoms of the disease as to render any continuance of the experiment unjustifiable.

On *post-mortem* examination, the pia mater covering the brain and anterior surface of the spinal cord was found to be abnormally vascular; and the right lateral sinus and internal jugular vein were gorged with dark blood. The anterior spinal artery and vein were of very large size; and some of the vessels accompanying the anterior roots of the spinal nerves appeared enlarged and tortuous. Naked-eye inspection detected nothing unnatural in the appearance or consistence of the nervous substance. The pericardium contained about four ounces of clear fluid. The heart was somewhat enlarged, and coated in places with recent lymph. Over a considerable portion of its outer wall and the corresponding pericardial surface were scattered warty excrescences and roughened patches, giving the well-known resemblance to tripe. The valves were healthy, with the exception of the middle aortic, which was thickened by commencing vegetations. The other organs were free from disease. Some urine withdrawn from the bladder contained a large excess of urea.

REMARKS.—The main facts of this case seem so far to speak for themselves as to render comment unnecessary; but I should like to draw attention to the very insidious manner in which the heart-disease stole on, without being attended by general symptoms sufficient to indicate its presence. That this occasionally happens in acute rheumatism, must be a matter of general observation; and I would throw out the hint, that the alkaline treatment, while undoubtedly lessening the risk of cardiac complications, may, by its lowering effect on the system, cause these to assume a masked form, if they do occur. I venture to make this suggestion, in consequence of having observed such a course of events in other cases of rheumatism which, like the preceding, had been treated by large doses of alkalies.

5.—*Treatment of Hydatid Tumors by the Hypodermic Syringe and by Electrolysis.* [From Lancet Hospital Reports, July 18, 1868.]

In St. Mary's Hospital, last week, we found a woman aged thirty-three (Ann M.), who had been admitted under Dr. Sibson's care on March 22d, with two hydatid tumors of the abdomen. A year before admission, she had felt pain in the epigastrium toward the right side. Last December she first observed a small swelling in that situation, which had since gradually increased in size. At the time of her coming into hospital two tumors were to be perceived; one in the situation described, which measured about four inches in every direction; the other, in the left hypochondrium, was felt coming down to left side of navel, and during inspiration descending below it. At the end of May the first of these swellings was punctured, and two pints and a half of fluid were drawn off. As a result, the swelling went down greatly in size, and the other tumor rose in the abdomen, apparently by reason of the increased space thus caused. At the time of our visit, Dr. Sibson had the second tumor punctured. This was done in the same way, he told us, as he had found convenient on previous occasions. By means of Richardson's apparatus, a space of skin the size of half a crown was frozen over the most prominent part of the tumor. A common hypodermic syringe was then thrust into the swelling. The piston being lifted, the cylinder was speedily filled with a clear fluid. Next, the body of the syringe was unscrewed and removed, an india-rubber tube being then adapted to the canula portion, which was left in the wound, and allowed to drop into a suitable vessel at the bedside. On the former occasion the two pints and a half of fluid took three hours in removing in this way. Dr. Sibson does not employ the syringe after the first. The plan seemed to us a convenient one for removing a small quantity of the fluid for examination, and it presents also the advantage of furnishing an unusually fine canula and trocar in one. Under the microscope we had the opportunity of seeing a cyst, which contained some of the characteristic hooklets. Dr. Sibson succeeded in completely curing a little child last year in the manner described.

There is a patient just now in Guy's Hospital, in the clinical ward, under the care of Dr. Hilton Fagge, in whom an attempt has been made to cure an hydatid tumor in the liver by electrolysis. There is every probability of the operation being successful. The patient is a young man who was admitted on June 4th, with a swelling in the right hypochondrium, which had been observed for about four months. There was a space of dulness in the hepatic region, measuring about seven inches vertically; the ribs on that side were bulged, and the intercostal spaces prominent. There was no jaundice and but little pain. The tumor presenting all the characteristics of hydatid disease, and, moreover, increasing in size, it was determined to operate upon it, and this was done in the following way: On

the 18th of June, Mr. Durham introduced two steel gilt needles into the most prominent part of the swelling, one piercing the space between the eighth and ninth costal cartilages, and the other about two inches behind it, between the ninth and tenth ribs. The needles were passed in to a depth of two or three inches. One of them was then evidently free in fluid for it could be moved about, and rubbed against the other. The posterior needle doubtless passed through the diaphragm, as it was jerked about during the movements of respiration. Both needles were now connected with the negative pole of a voltaic battery of ten cells (continuous current), freshly charged. The posterior pole, with the ordinary conductor, was placed between and near the needles. The current was allowed to pass for twenty-five minutes, and during this time there was a crackling feeling under the finger, as of emphysema, which was thought to be due probably to hydrogen gas liberated from the fluid by the action of the voltaic current. After the operation there was some pain for four or five hours. In the evening the temperature was 100.9° , and the patient did not sleep well that night. Next day his temperature was 99.6° ; and on the following morning (June 20th) it had risen to 101.2° . At this time the hypochondrial tumor had greatly disappeared, and the man expressed himself as feeling quite well. On examining the right side of the chest, however, Dr. Fagge was a little startled at finding absolute dullness behind up to the fourth or fifth dorsal vertebra; and over this extent of thorax there was loss of vocal vibration, marked tubular respiration, and ægophonic character of voice—conclusive evidence, indeed, of a large effusion of fluid. There was a very little pain about the situation of the needle-wounds; but there had been no characteristic pleuritic pain. The man lay on his back, but did not appear at all distressed. Taking all the circumstances into consideration, Dr. Fagge told us that he was inclined to think that the presence of fluid in this pleura was due to mechanical pressure by the effused gas upon the hydatid liquid, which had thereby got squeezed through the puncture in the diaphragm into the pleural cavity. The absence of constitutional distress corresponding to so large a surface of pleural inflammation (supposing the cause to have been pleuritis) would seem to render Dr. Fagge's explanation a very probable one. The man went on perfectly well, the chest symptoms rapidly disappearing. When we listened to him on July 10th (just twenty days after the appearance of the fluid effusion, we found the very slightest trace only of dullness on the right side of the chest behind, no loss of vocal vibration, no ægophony; but at the close of each inspiration a slight creaking only. No abdominal tumor was to be discerned. Dr. Fagge told us of a child whom he treated last year by this same method. After four months the tumor, although greatly diminished, could still be felt. At the present time it has quite disappeared.

A similar mode of procedure was adopted three weeks ago on a child of thirteen years of age, under Dr. Phillips's care, in the Royal Infirmary for Children, Waterloo Road. In this case there were two tumors; one in the epigastrium, the other at the lower border of the liver. Mr. Cooper Forster applied the voltaic current in the manner we have already described. In this case no trace of gas was to be observed. On the second day after the operation an attack of urticaria occurred. There was no peritonitis. Diminution of the tumors was quite gradual. In about a week no margin could be felt; in ten days the liver was clearly to be made out, and was found to be itself enlarged. Where the cysts were placed, the structures are now quite flaccid. It seems possible, from the persisting enlargement of the liver, that another cyst exists in its interior. We ought to say that in each of these cases two or three drops of fluid escaped on the introduction of the needles. The escape was unintentional, and indeed unavoidable. It is manifest that, ere we can be quite convinced that

the hydatid cysts have been killed by the electric current, the simple escape of a few drops of the fluid should be proved to be insufficient to destroy the vitality of the parasite. In the ordinary tapping operation, it is impossible to believe that all the fluid is evacuated. The question then is to determine what quantity is sufficient to effect the desired purpose.

6.—*Treatment of Chronic Dyspepsia by Lactate of Soda and Magnesia.* [British Medical Journal, Sept. 5, 1868.]

Dr. Gäbel asserts that the most obstinate form of dyspepsia is that which often occurs in chlorotic and anæmic patients, and in women suffering from uterine affection. This sympathetic dyspepsia is indicated by severe gastric pains coming on soon after a meal, but never spontaneously, and sometimes leading to vomiting. In this form of dyspepsia, acid formation in the stomach is the chief element. Dr. Gäbel has treated the pains by the carbonates of soda and magnesia, with no very satisfactory results; and pepsine has also frequently failed to do any service. Finally, pastilles containing lactate of soda and magnesia were administered directly after meals. The results of this treatment were very satisfactory; the irritation set up in the stomach by the presence of food gradually ceased; and the patients were soon enabled to take digestible articles of diet without suffering from pain. Dr. Gäbel has frequently succeeded in bringing about a permanent cure of this form of chronic dyspepsia by a prolonged administration of the pastilles.—*Allgemeine Wiener Medizinische Zeitung*, No. 20, 1868.

7.—*Case of Spinal Apoplexy.* By ROBERT JACKSON, M. D. [Lancet, July 3, 1869.]

On Sunday, the 2d May, 1869, Miss F. L——, a bright, merry, healthy, and well-developed young lady, aged fourteen, arose as usual, but, while dressing, said her “fingers felt weak.” She, however, went to church both morning and evening, and seemed quite well.

On Monday she again got up as usual, but complained of the same “weak feeling” in her hands. Otherwise she felt very well; participated in the usual studies of the day; and in the evening had a warm bath, enjoyed it, and got into it “with the use of all her limbs.”

On Tuesday she was much the same. Ate a good breakfast, feeding herself, etc. During the forenoon, however, the weak feeling considerably increased, and I was sent for. I found her lying on her back in bed, quite merry, laughing, free from all pain, and rather amused than otherwise at her condition. She was, however, unable to shake hands with me, or to move her arms except at the wrists; and failed altogether to pick up a pin placed on a book before her.

On Wednesday there was no very material alteration. I observed, however, that the intercostal muscles were not acting quite freely; she seemed, too, to lie *heavier* in her bed, and she evidently was more unable to turn herself round. There was also a moist crepitant râle over all the chest, with a little cough. The secretions continued free, the pulse regular; and she ate, being fed, a good dinner of roast beef.

On Thursday Sir William Jenner kindly saw her with me. Her general condition was not greatly altered; every sensation perfect; no anæsthesia; and she displayed her usual quick perception and intelligence. A careful examination, however, at this time, clearly demonstrated a great and decided loss of power in all the voluntary muscles of respiration, and in those muscles of the arms, back, and chest, supplied by the branches of the cervical

nerves. The diaphragm, too, was becoming fixed, and there was slight lividity about the cheeks, with a fall in the natural temperature.

From these symptoms it became evident there was some serious spinal lesion, implicating probably, and more particularly, the anterior branches of the cervical nerves and the origin of the phrenics.

Sir W. Jenner, therefore, diagnosed, and, as will be seen, with perfect accuracy, a clot in the cervical portion of the spinal cord, and he prognosed, notwithstanding the bright eye and still merry laugh, a speedy and fatal result. This took place thirty hours afterward, without pain, without loss of consciousness or sensation, but only as the cessation of the power of respiration became more and more determined, with a desire to be raised "higher and higher."

In this interesting case a *post-mortem* examination of the brain and spine was kindly allowed, and made forty hours after death. There was slight opacity of the dura mater in several places. Brain congested and soft. A softened spot and ill-defined clot in the cerebellum. The whole cervical portion of the spine, but particularly anteriorly and to the left side, was embedded in an oblong clot of dark venous blood outside the membranes. The whole length of the cervical portion of the canal and dura mater were deeply tinged by the color of the clot. The cervical nerves all passed through this effused blood, the intervertebral canals on both sides being filled with it. So soon as the seventh cervical vertebra was reached, the clot ceased, and the cord and canal assumed their normal condition and color. There was also a good deal of semiclotted blood about the pons, and the nerves arising from it.

It is certainly a matter of much difficulty to account satisfactorily for this great effusion of venous blood in a subject so young, and so apparently healthy and robust. No outward cause could be assigned; there had been no blow or injury, no illness, no interrupted function; but living with kind and affectionate relatives, she enjoyed every comfort and happiness. It might have been assumed that so great a lesion, situated in so important and vital a position, would have given rise to more decided and graver symptoms from the beginning. The only probable explanation is, that the effusion took place very gradually, had room to extend itself, and coagulated slowly and imperfectly. Until the paralysis of the diaphragm, showing dangerous interference with the functions of the phrenic nerves, nearly every symptom might have been attributed to one or the other of those obscure forms of hysteria so frequently met with in practice.

8.—*A Worm discharged through an Abscess.* Reported by F. McEvoy, L. K. Q. C. P. [Medical Press and Circular, July 7, 1869.]

A boy aged fourteen years, delicate from birth, pale, thin, and small for his age, had passed at various times a vast quantity of worms, both by stool and mouth; had a very severe cough, and spat blood twice or thrice. His poor mother, who has since died of cancer of stomach, at my solicitation sought further advice, and consulted several doctors both in town and country, and also brought him to hospitals, without the least alleviation of his symptoms. His complaint was phthisis.

One day she called and brought me a red ticket, and requested that I would see him, as he had a lump like a blind boil just over his stomach. I did so, and found it as she stated. As I could not say what it was, I told her to wait, watch, and poultice, as I thought it would probably gather and break, and that I would call occasionally to see him. She did so, and in about three weeks I was again requested to see him in haste, although

I had seen him the previous day, when he appeared to be going on very satisfactorily.

His mother informed me that upon removing the poultice in the morning to put on a fresh one, she perceived a white point sticking out of the middle of the abscess. At first she considered it to be matter, but on closer inspection she could see it move. She put on the same poultice again, and sent for me. Upon removing the poultice I perceived about two inches of one of the lumbrici protruding from the abscess. I seized it, and gently drew forth a large worm, nine inches long. It appeared to have been coiled up underneath the skin, and must have escaped through some ulceration of the intestines or stomach.

There was not much matter in the abscess, if abscess it could be called; it healed up in a few days, and the boy recovered from it, but in about three months succumbed to the original disease. There was no *post mortem* permitted.

9.—*Notes on unusually rapid Action of the Heart.* By RICHARD PAYNE COTTON, M. D. [British Medical Journal, July 3, 1869.]

In the *British Medical Journal* of June 1, 1867, I related a case, illustrated by sphygmographic drawings by Dr. Sanderson, in which the pulse reached 232 per minute. It was the first of the kind which had been published. In the *Journal* of June 22d of the same year is a letter addressed to me by Sir Thomas Watson, Bart., in which he describes a very similar case which had fallen under his notice several years previously, and where the pulse reached 216 in the minute. Dr. James Edmunds also described a like case (*Journal*, June 15, 1867). A short time afterward, four other cases were recorded—one by Dr. J. D. Brown (*Journal*, July 20, 1867); two by Dr. R. L. Bowles (*Journal*, July 20, 1867); and one under the care of Dr. Broadbent, at St. Mary's Hospital (*Journal*, August 3, 1867).

As this closes the number of cases hitherto placed on record, and the condition is, as Sir Thomas Watson justly remarked, "a very rare form of disorder," I have thought it might be worth while to add the following case, which has lately fallen under my observation.

A few months ago, I was requested by Mr. Langhorne, of 227 Brompton Road, to meet him in consultation upon a case of excessive palpitation of the heart. We found the patient—a gentleman aged about thirty-five, and leading ordinarily a very active and anxious life—suffering with severe dyspnoea and general depression, accompanied by marked symptoms of gastric derangement and slight muscular rheumatism. It was impossible to count the pulse, the beats being far too quick, feeble, and apparently irregular; but, on placing the stethoscope upon the heart, we could distinctly count 200 pulsations in the minute—each pulsation being regular and uniform, and consisting of but one sound, and that quite free from murmur. The patient stated that his palpitation and distress had come on simultaneously two days before; and that he had had several previous attacks, but of a milder character.

Remembering the treatment of my former case, I suggested the free use of stimulants, with ammonia, potassa, and digitalis; and, in the course of two days, the heart returned *suddenly* to its normal action, and at the same moment the patient to his ordinary condition—whether as a sequel or a consequence of the treatment, a *post* or a *propter*, I cannot say.

I have very recently seen the same gentleman in perfect health, his heart beating quite naturally, and not exceeding 80 in the minute. He told me, however, that, since the attack which I have described, he has

had several others similar in kind, but less severe; and that on each occasion the heart returned *suddenly* to its proper action.

Of the seven cases now recorded, in four instances the excessive action of the heart terminated *abruptly* and *suddenly*, the patients having been able to tell the exact moment of its occurrence. In the remaining three cases, the same may or may not have obtained; the circumstance either having escaped observation, or not having been stated. This forms an interesting feature in the disorder, and is well worthy of notice in any similar cases which may occur.

I feel much hesitation even in suggesting an explanation of the strange phenomena exhibited in the cases I have related. In my former paper, I ventured upon the supposition that they were due either to an obscure and abnormal irritating state of the blood, or to an extreme and inexplicable sensitiveness of the heart itself, or possibly to a combination of both such conditions, but having the common effect of causing the heart to contract upon its contents long before its cavities have had time to become filled to their normal extent. It remains, however, to reconcile with this, or, indeed, any other view of the matter, the *sudden* return of the heart to its healthy action. I confess that I am unable to understand this; but

"There are more things in heaven and earth
Than are dreamt of in our philosophy."

10.—*Rupture of the Heart.* By GEORGE MAY, Jr. [British Medical Journal, July 3, 1869.]

A. B., aged sixty-one, during the night of September 23d, was seized with acute pain in the epigastrium, extending through to the back. For two or three evenings, he had complained of slight uneasiness in the chest: he attributed this to indigestion, and prescribed for himself some quinine. Soon after the pain commenced, both arms became cold up to the elbows. I saw him early in the morning, and remarked the anxious expression of his countenance and the tumultuous action of the heart, the sounds being distinct, with a frequent but feeble pulse, which never fell below 120 in a minute. The pain ceased after a few hours, and did not return. During the following night, the breathing became very hurried, with congestion of the lungs. From this time, the symptoms varied but little. He could not lie down or turn on his left side. There was increased dullness on percussion over the cardiac region. The last day or two of his life, his legs became swollen; and he died on October 11th, suddenly, seventeen days from the commencement of his illness.

Post-mortem examination, twenty hours after death.—The body was fat. The pericardium was filled with soft clotted blood, but no serum. The anterior wall of the lower half of the left ventricle was slightly adherent to the pericardium. The heart was moderately covered with fat, and pale; the anterior wall of the left ventricle was very thin, not thicker than cartridge-paper, and supported by a layer of partly-organized deposit, which was firmly adherent to it. Near the auriculo-ventricular septum were two small openings in the anterior wall, about large enough to pass a No. 6 bougie. There were atheromatous deposits in the aorta.

I can only find one case, recorded by Dr. Quain in the *Pathological Transactions* for 1861, in which the patient survived more than a few hours; and in that case there was no distinct proof of rupture. That the illness depended on the heart, and would probably end fatally, was early diagnosed; but, as I had not heard of any case of rupture in which the patient survived more than a few hours, the true nature of the illness was not detected.

In a case of rupture of the left ventricle which I presented to the Society some years ago, death occurred within one hour.

In early life, my patient had lost his sight from small-pox, and for the last few months had ceased to take exercise, not having left the house during that time.

The case seems to have been one of aneurism of the left ventricle, associated with fibroid degeneration. The thinning of the wall of the ventricle was partly remedied by a deposit of fibrine; but this, not taking place close to the mitral valve, allowed rupture to take place. The escape of blood into the pericardium caused adhesive inflammation, but did not close the aperture; and the patient existed in a condition similar to that produced by effusion of serum into the pericardium. The smallness of the aperture was the reason why he probably escaped immediate death. Until his last illness, he had never suffered from any symptoms of inflammation of the heart.

On the 5th of April, the body of a man, aged about forty-five, was sent in for *post-mortem* examination from an out-station. The appearances observed were as follows: Body apparently that of an able-bodied, healthy man, hair grayish, no marks of violence on the skin; but in cutting down on the sternum an ecchymosis, passing through cellular tissue and muscles, was seen over the third and fourth costal cartilages on the left side. On dividing the pericardium the sac was found full of clotted blood. On examination a *rent*, with jagged edges, size of an eight-anna piece, *was observed in the left ventricle*; the heart was large and flabby, with an abundant deposit of fat on its walls, which were thus weak; extensive pleuritic adhesions on both sides, not, however, of very late date; lung-tissue compressed and congested; stomach empty; spleen in a state of maceration, it broke down completely on being removed; liver perhaps somewhat enlarged, but otherwise natural; intestines natural; valves of heart natural; no atheromatous deposits on aorta. The brain was not examined.

Nothing certain is known regarding the circumstances under which death took place. The man was found dead on his threshing-floor, which he had been watching. It is probable that he was attacked by thieves; that a struggle ensued, in which he was struck over the heart and spleen; that, with his heart undergoing fatty degeneration, the excitation so very unusual thrown in the organ, and the direct violence inflicted on it, caused rupture of its wall, and sudden death. As subsidiary causes of death there were the pleuritis and its results, compression of the lungs, a more or less loaded state of the right side of the heart, circumstances thus tending materially to impair health; and intermittent fever with its result, a softened spleen, which was easily ruptured. There were *two* fatal accidents, but that affecting the more vital organ must be mainly taken into account in tracing the cause of death.—*Indian Medical Gazette*.

11.—*The Subcutaneous Injection of Morphia in Dyspepsia.* By T. CLIFFORD ALLBUTT, M. D. [Practitioner, June, 1869.]

In the present paper I intend to show that the uses of the subcutaneous injection of morphia are, as yet, very far from being fully known. I believe that the morphia syringe is used more extensively in Leeds, by my colleague Mr. Teale and myself, than is the case elsewhere, and we hope to show that its effects in dyspepsia, in heart-diseases, in local inflammations, in rheumatic gout, in insanity again—as Dr. Lockhart Robertson has just

pointed out—and in many other disorders, are greater than we dream of as yet, and show that its power is something far wider in its bearings than we can at present formulate, or indeed conceive.

It seems quite clear to us that morphia given subcutaneously has some power profoundly to modify the nervous system in such a way that it must become a prominent remedial means in all disorders where the nervous system is mainly at fault.

My object now, however, is not to speculate, but to write an account of the practical value of the injections of morphia in dyspepsia. At some other time I hope to write a similar paper upon its uses in heart-diseases.

I believe that I am the only person who has made a deliberate use of the syringe in cases of dyspepsia: in cases of hysteria, heart-disease, rheumatic gout, etc., it has been used so much in common by my friend Mr. Teale and myself, and we have compared notes together so constantly, that I should scarcely know how much of my knowledge to attribute to him and how much to my own experience. For the following notes on dyspepsia, however, I am alone responsible:

I was first led to prescribe morphia hypodermically in dyspepsia by observing the effects of its continued use in a lady whom I was treating by this method for rheumatic gout. To enter fully into her case would occupy a disproportionate part of my space. Suffice it to say that she is a lady of extreme nervous susceptibility, and that her dyspepsia was something far more than the dyspepsia of disordered secretions. The mucous membrane was extremely irritable, the appetite uncertain, and the bowels very capricious; so that a little worry, or a little alarm, or a little over-exertion, would at once take away the appetite, bring on diarrhoea, or cause sickness. There was evidence, in fact, if I may use a somewhat inaccurate expression for brevity's sake, of extreme hyperæsthesia of the digestive mucous membrane. These symptoms were relieved from time to time by bismuth, steel, digestive pills with minute doses of opium, and the like. But it was not until she began to use the hypodermic method for the rheumatism that I discovered how happy an effect the morphia had upon her digestion. I began to find on the morning visit that the morphia of the evening before, so far from coating the tongue and depressing the appetite, cleaned the tongue and made her quite hungry. The days of her best appetite and most regular stomach and bowels were the days following the subcutaneous injection of a quarter of a grain of morphia. I was so struck with this that I determined to use the syringe in many of those unhappy nervous dyspeptics who are the plague of a doctor's consulting-room, and the results have far exceeded my expectations, which, at first, were only moderate.

I will now try to show in what kind of dyspepsia I advise the subcutaneous use of morphia. In doing this I shall only cite cases as illustrations, and shall leave proof to my readers, who will have ample opportunities for trial. The incessant use of the unsatisfactory expression "atonic dyspepsia" in our books is an evidence of the strong general feeling we have that a large number of such cases depend less upon disordered organs than upon organs deficient in vigor. Very frequently, however, we find not a mere passive debility, but a state of instability, of irritability, or of erethism, whichever word may best convey my meaning. And it is not widely enough known that many cases of foul breath, thirst, and loaded tongue, depend rather upon this nervous condition than upon "sluggish liver," or "deranged secretions." It is in these cases that the hypodermic use of morphia is so strikingly successful. Such forms of dyspepsia we know often occur in "hysterical" women, and I may say, in passing, that the morphia syringe, carefully used—and used carefully in a moral as well as a medical sense—is by far the most potent means of remedy we

have for "hysteria." Nothing so soon and so permanently relieves general irritabilities, instabilities, globus hystericus, capricious appetite, etc. I do not apologize for this digression, for in the dyspepsia of these cases the syringe is most useful.

Miss —, aged twenty-eight, had recently been disappointed in love. She had become moody, capricious, melancholic, and indolent. She refused her meals, and she lay mostly in bed. She suffered most painfully from globus, and frequently vomited her meals. She had begun to crave for and to take alcoholic stimulants. When I saw her I found, in addition, a restless, conscious manner; muddy complexion; soft, easily-quickened pulse; coated tongue; uncertain bowels; tumid abdomen; cold extremities and flushings of face and neck. She complained, of course, of the usual lassitude, sinkings, tremors, etc. Her temperature was normal in the evening, and the catamenia were but little wrong. She had been carefully treated for the various secretions, and had subsequently undergone careful and vigorous tonic treatment. I gave her an injection of a quarter of a grain of morphia the same evening. I scarcely dare describe what I believe to have been its effects, lest I should seem to emulate the virtues of Holloway's pills. I was amazed to see her walk, with her sister, into my consulting-room, the next morning, soon after breakfast, and declare that she was a new woman. From that time we used only the syringe (one-fourth of a grain every night), and she made a most satisfactory recovery—the tongue cleaning, the appetite returning, the pulse steadying, and the *morale* improving. All desire for alcohol and all tendency to globus and vomiting disappeared with the first injection and did not return. I write about four months after her recovery. The injection was readily omitted when the health was restored, and no tendency to opium-eating appeared. Indeed, one night, when the injection could not be given, she took a pill containing a quarter of a grain of morphia, and expressed great discontent next day with its disagreeable effects, which were the same as in a healthy person unaccustomed to the drug.

My space is, I see, rapidly diminishing. So, without further remark, let me run on to another case of a kind which often baffles all treatment:

Mr. —, a merchant, having somewhat large dealings of an anxious kind, but not under any especial pressure, consulted me for dyspepsia. He said, "I fear you can do nothing for me: I have seen" So-and-so and So-and-so (naming eminent London physicians), "and I know that I am a hopeless dyspeptic. Nothing does me good for any length of time." He was of a well-known type—spare, fretful, keen, hasty or absent in manner, dry skin, sallow face, pale compressed lips, stooping gait, and quick step. His tongue was too clean, and was red at the tip and edges. Pulse small and quick, usually ninety when at rest. Evening temperature normal. No suspicion of tubercle. His meals were a dread to him, instead of a hope, and bed at night was an actual terror. Here was a specimen of the true nervous dyspeptic; I need not describe him more in detail. Knowing that every conceivable remedy had been tried, I put him at once upon the subcutaneous injection of morphia. He had about one-fifth of a grain about three P. M., followed by a rest on the bed, and one-fifth of a grain again about half-past ten, followed by rest in bed. This he had for ten days, and his improvement was as pleasing to me as to himself. His afternoon injection soon began to make him positively hungry for his evening dinner, and his nights became quite "balmy." I then gave a quarter of a grain every night for a week or ten days longer, and had the pleasure of seeing him cured as to his dyspepsia, and more light-hearted than he had been for years. The recovery is as yet too recent for me to judge of its permanency.

I must pass by the dyspeptic with the flabby indented tongue—for

whom, indeed, my experience would not lead me to try the morphia until steel and strychnine had utterly failed—and I must conclude with the following case of acute gastric catarrh:

I was requested to meet my friend Mr. Atkinson in the case of Mrs. —, who was suffering from great disturbance of the stomach. We diagnosed “acute gastric catarrh,” and I am pleased to find on consulting Dr. Wilson Fox’s book, for the first time in reference to this case, as I now write, that our diagnosis is well borne out by his description of “(a) Acute indigestion and the ‘embarras gastrique.’”¹ Mrs. — was a young married woman of about twenty-five. She had suffered from several causes of depression, one of them being flooding after labor. There was decided epigastric tenderness, some pain after food, and constant vomiting. The vomiting occurred always after food, however small the quantity, and often independently of food, when considerable quantities of mucus and water were ejected. The tongue was thickly furred, and the breath offensive; there was decided evening fever (Fahr. 100°–101.5°), with quick, weak pulse and some night-sweats. She complained much of thirst, and would, if permitted, swallow quantities of cold water. There were headache, lassitude, and extreme debility. Sleep was absent, or was dreamy and unrefreshing. The urine was scanty and thick, the bowels constipated. Mr. Atkinson had tried every dietary, nutritive enemata, and every kind of remedy (opium included), for several days without relief, and the symptoms became alarming. He gladly, therefore, agreed to try the morphia injection, and he was as pleased with the result as I was. We injected a quarter of a grain in the evening with the effect of at once arresting the vomiting and procuring sleep. In this case the morphia injection had also the wonderful effect I have before mentioned, of creating appetite and cleaning the tongue. The next day she began to retain milk and lime-water, the vomiting became rarer and rarer, and the ejected mucus far less copious. She had the injection repeated nightly for a week or ten days, and progressed, with few drawbacks, to convalescence.

I must now remember the limits which are necessarily imposed upon papers like the present, and must deprive myself of the pleasure of relating many more cases, and of discussing in full those which I have told. I regret this the less as I desire only to draw the attention of my readers to this useful method of treatment, and to ask them to prove its worth for themselves. I believe, as my friend Mr. Teale often says, that we are only on the threshold of our knowledge of the virtues of morphia when injected under the skin.

Miscellaneous and Scientific Notes.

LAST ILLNESS OF DR. ALDEN MARCH.—The following account of the case of the late Dr. March has been prepared under the direction of the physicians who had the principal charge of the patient, for the information of the many friends and acquaintances of that distinguished surgeon and professor. The information contained in the preliminary remarks was derived from a gentleman nearly related to the patient, and for many years his most intimate associate.

¹ *Vide* Wilson Fox on Dyspepsia, p. 158.

Dr. March had suffered for many years from irritation of the bladder, which fact was known to his intimate friends. Any unusual mental excitement, such as the performance of a hazardous surgical operation, was sure to increase this irritation. It sometimes occasioned him considerable annoyance.

More than fifteen years ago, while travelling with his family in Switzerland, he met with an accident, while descending Mont Righi; slipping on the rock and striking the lower part of the abdomen on a projecting point. The injury was severe, and confined him to his room in Lucerne several days with local symptoms. During the rest of his journey, and long after his return, he used to refer to this accident as an injury of the bladder, and complained of soreness in the lower part of the abdomen. More than ten years ago, when speaking of the case of Dr. Tully, his former partner, who died of disease of the bladder and prostate, he remarked that he had the same disease, and that it was increasing every year.

Before this time he provided himself with a urinal; and, when travelling, he kept it at hand night and day. Some time later, he met with another accident in running up the steps of a railroad depot. Tripping on a step, he struck heavily on the edge of the platform. He suffered very much at the time, and was exceedingly alarmed. Speaking of the accident, he said, "I thought that I had killed myself, that I had ruptured my bladder." He never recovered entirely from this injury. He was in the habit for a long time of placing his hand over the lower part of the abdomen, as if in the act of examining or percussing.

This habit has been noticed by his friends, and been spoken of by his pupils since his death, as having been noticed also in the lecture-room. A few weeks before his death he made the journey to New Orleans to attend the meeting of the American Medical Association. On his way he suffered from the extreme heat and fatigue, but rested only a few hours at Charleston and Atlanta. He wrote from Charleston, "I am almost overcome with the heat." From New Orleans he wrote, "I have enjoyed the meeting very much, and seeing so many of my old friends, perhaps for the last time." Alas! so it turned out. It is not a little remarkable that no fewer than four ex-presidents of the American Medical Association *died* within a few weeks of each other—Moultry, Eve, A. H. Stevens, and Alden March.

On his way home, Dr. March travelled night and day continually, without appearing to suffer from the journey. He resumed his professional business with his usual alacrity, attended to distant calls, and continued his weekly clinique at

the hospital. After a very fatiguing ride in the country, exposed to rain and cold, he went to his bed quite ill with fever, restlessness, pain over the region of the bladder, great thirst, and constant desire to void urine. He passed a restless night. On going to bed he took a pill of five grains of calomel and one of opium, which acted freely on the bowels in the morning, and seemed to afford relief. He kept quiet, took diluents and small doses of opium during the day. Next night, at the suggestion of one of his colleagues, he had a warm bath, followed by Dover's powder, which afforded great relief, and procured him a tolerably comfortable night's rest. In a few days he was out again and attending to business, but his countenance continued somewhat sallow, and the expression anxious. A few days after, he gave his last clinique at the hospital, and performed a tedious operation. It was the removal of a tumor which lay over and involved the carotid artery and internal jugular vein. He was greatly fatigued, and went home quite unwell. From this time his health was broken down, and his declining strength quite apparent. But his strong *will* would not allow him to take rest. He kept going about, but could not attend much to out-door patients.

He made it a practice, never, if it could be avoided, to be absent from his place in church on the Sabbath. On the 6th of June he was, as usual, in his pew, and remained during the service, but in great distress from his old trouble. At the close he rushed from his seat to the closet of the lecture-room and relieved himself by partially emptying the bladder, after a painful effort. He remarked to a friend, "I never suffered so much pain in my life; I could not have borne it another minute." After this it was thought best, in order to insure greater quietude, and to avoid the annoyance of professional consultations, to have him removed to the residence of his son-in-law, David I. Boyd, Esq., in Park Place. There he remained until his sufferings were ended by his death. There he was surrounded by sympathizing friends, tender nurses, and experienced and attentive medical advisers. His regular medical attendants were his colleagues, Professors James H. Armsby and McNaughton, and Dr. Jas. P. Boyd; but he was occasionally visited by the leading physicians and surgeons of Albany, and some from the surrounding districts.

There was not at any time much difference of opinion regarding the nature of the case or the proper treatment to be pursued. It is true that some erroneous statements appeared in the newspapers in regard to the nature of the disease, but these were not authorized by those who had charge of the case. After Dr. March became confined to his room, he had moder-

ate fever in the daytime, but more at night. There was excessive thirst, and he drank a large quantity of ice-water. His nights were restless and his sleep unrefreshing. His appetite was better for the first week than could have been expected, and he was ready to take as much food as his medical attendants were willing to allow him. His most troublesome symptom was pain about the neck of the bladder, and an irresistible desire to void urine every fifteen or twenty minutes.

He seldom passed more than an ounce or two at a time, but, passing it so often, the quantity voided daily, for the first week or ten days, amounted to between two and three quarts. Attention was early called to a tumor occupying the lower part of the abdomen, and distinctly traceable from the *pubes* nearly to the *umbilicus*, but much better defined on the left side of the mesial line than on the right side. On the left of the linea alba it was a soft, solid mass, fixed in its position. On the right of that line, the tumor was not as well defined, or traceable to the pubes, but yielded a faint sound on percussion. The tumor was regarded as a distended and thickened bladder, bound to the left side by adhesions to the omentum and abdominal parietes.

The injuries received in that region rendered such adhesions more than probable. The patient did not seem to recollect how long the tumor had been felt by him, but he seemed to feel certain that his bladder was somehow displaced, and that he had for years been afflicted with disease of the prostate gland.

The introduction of the catheter was early suggested, but as the parts were very tender, and he had himself repeatedly tried to introduce it without success, it was delayed at his own request. There seemed no urgent necessity for it, as he was passing daily from two to three quarts of apparently healthy urine, and means were being resorted to in the mean time to allay irritation, so as to facilitate the passage of an instrument, if necessary. The first attempt to introduce a catheter was made about a fortnight before he died. The instrument passed without difficulty its whole length, without entering the bladder; blood coagulated in the catheter, and no urine passed through it, but some passed external to it and followed its withdrawal. As the operation caused distress and exhaustion, it was not persisted in. It was chiefly resorted to as a means of exploration, and revealed the great elongation of the prostatic portion of the urethra, as well as the great enlargement and induration of the prostate gland. No other attempt was made until a few days before his death. Whenever it was proposed, he would say, "I pass quite water enough, why give me unnecessary pain?"

At the second attempt, he was put under the influence of chloroform, and a longer instrument than usual was employed. It was passed readily the whole length of an ordinary catheter until it met a firm, resisting body, and seemed to fall into a *cul-de-sac* in which its point was fixed. It was repeatedly withdrawn, and its point carried along the anterior wall of the prostatic urethra; but the handle of the catheter could not be depressed, on account of the great enlargement and induration of the prostate gland.

Several instruments, metallic and flexible, were tried, but with no better success. As the operation was exhaustive, and not likely to succeed at last, it was deemed best not to persevere.

Up to this time he passed his urine voluntarily and in sufficient quantity daily to prevent, it was supposed, uræmic poisoning from its retention in the bladder. He was occasionally delirious, and exhibited nervous symptoms and disturbance of the stomach and bowels; but these were attributed to the free use of anodynes, necessarily administered to relieve his distress. There was no involuntary dribbling of urine at any time, or other evidence of over-distention of the bladder. He seemed possessed from the first with the idea that he had a great accumulation of feces in the *rectum*, and *that* after very free evacuations from the bowels, from repeated doses of castor-oil.

The sensation, doubtless, was caused by the enlargement and induration of the prostate, and the pressure of the bladder on the *rectum*. Uræmic symptoms became more marked in the last two days. Hiccough, delirium, and drowsiness, became more decided, his urine passed without effort, and the last day, without apparent consciousness, into a urinal, but in less quantity than before. Almost to the last hour he could be roused to consciousness. His spirit quietly departed on the morning of June 17th, in the seventy-fourth year of his age.

State of the Urine.—As Dr. March had so long suffered from disturbance of the urinary organs, attention was at once drawn to the quantity and quality of his urine. He informed his medical attendants that, for several months, he had voided from three to six quarts daily. The urine was clear and free from any sediment, and of the color of pale sherry.

There were some suspicions of diabetes, but, when tested by Prof. Mosher, it was found to contain no sugar, and its specific gravity was only 1.005; it contained no albumen. Later in the disease the gravity was 1.010, and urea in a given quantity less than the average, but, as he passed more urine than the average daily, the whole quantity of urea voided

might be equal to the average. The urine had a slightly acid reaction.

Treatment.—The treatment was such as is usually pursued in such cases—warm baths, fomentations, diluent drinks, anodyne injections, anodyne suppositories introduced into the rectum, etc. Every attention requisite was paid to regimen and nursing, and every urgent symptom relieved as speedily as possible.

Remarks.—It is usual when a citizen, occupying a distinguished position in society, is known to be dangerously ill, that various reports about the case get into circulation. Dr. March's case was no exception. It was reported that he had a malignant tumor or cancer in the bowels, and could not recover. The only foundation for such a report was, that some gentlemen of high character and experience were inclined to believe that the tumor, which was distinctly felt, was not simply a diseased and enlarged bladder, but had connected with it, and external to it, another growth, probably of a malignant character. This opinion was not shared by the attending physicians. Nothing in the *post-mortem* examination was found to confirm its correctness.

The bladder was found enlarged, and much changed in its structure.

The prostate gland was very much enlarged in every direction, and indurated, but nothing indicated that it was affected by a cancerous disease. There was no appearance of recent inflammation in the *interior* of the bladder, but the outside exhibited evidence of former inflammations, more especially on the left side of the linea alba, in the shape of adhesions to the pubes, the omentum, and abdominal parietes, accounting for the position and character of the tumor felt in that region during life. Even after the bladder was partly exposed to sight, by the division of the abdominal parietes, the distended bladder, with its adhesions, conveyed to the hand of the examiner the feeling as if a sponge or some such substance occupied the interior of the bladder instead of urine. When the urine was drawn off, the coats of the bladder, especially on the right side of the mesial line, were found less thickened than might have been expected; but the bladder, owing to its adhesions, did not collapse. The kidneys also exhibited evidence of disease and former inflammation. Besides adhesions, both kidneys had serous cysts on their outer surface; the cysts on the left side were of larger size than those on the right.

In the tubular part there was some evidence of disease; the ureters were not enlarged or distended with urine. The bladder has been preserved, and photographs of it have been

taken, and a minute description of the morbid appearances given by Drs. Armsby and Haskins, by whom the examination was made in the presence of many physicians. The question may be asked, indeed has been already asked, "Why, as the catheter could not be introduced, was not the bladder tapped? Might not such an operation have prevented uræmia, or have prolonged life, if it did not save it?" These questions would probably be differently answered by different persons.

Uræmic symptoms were not so urgent as to warrant puncturing the bladder, even if the patient would consent. The physicians in charge thought such an operation would not only be useless, but injurious. A perforation through the rectum would be likely to be followed by urinary infiltration, and above the pubes the same result would be probable. It is not probable that uræmia is often caused by mere retention of urine in the bladder, even when a very small quantity of urine is voided in twenty-four hours. It is very probable that Dr. March had not for months entirely emptied the bladder at any time, yet his general health seemed good, and his body well nourished. It is true that, in the examination that was made of the urine, the proportion of urea contained in it was below the average; but was that caused by the absorption of that constituent after it got into the bladder? Is it not more probable that it was *retained* in the blood by the diseased action of the kidney, as in *ischuria renalis*? Such, at all events, was the view taken by those in charge of this case, and made them disinclined to resort to an operation of such doubtful utility.

JAMES McNAUGHTON,
JAMES P. BOYD,
JAMES H. ARMSBY.

HOW FAR CAN FLUIDS, INJECTED PER RECTUM, PASS INTO THE INTESTINES?—Dr. D. von Trautenheimer investigates this question. He employed a solution of ferro-cyanide of potash; after injecting this, he opened the intestinal canal and applied a solution of chloride of iron to the mucous membrane, so as to form Prussian blue wherever the ferro-cyanide was present. He employed an injection apparatus which allowed accurate control of the quantity injected; with either an ordinary anal pipe, or a tube of fifty centimetres' length. The introduction of the latter is not without its difficulties; the lower part of the intestines must be free from collections of fæces, from strictures, and from deformities; the tube must then be bent, like a catheter, with the aid of a wire stilet, to fit the concavity of the sacrum, so as especially to avoid the promontory. In order that the stilet may not escape at the end, and wound the intestine, it is fastened to

the tube at its external end with a clamp. When the tube has been introduced about nine or ten inches above the anus it is seized spasmodically by the so-called "third sphincter." No force must now be used, the spasm will presently relax of itself; the greatest patience and prudence must be observed. This is the point of chief difficulty, but the introduction of the long tube is the only way to make the fluid pass beyond it. The author's experiments on dead bodies, on one woman who was dying, and on animals, have proved that an elastic tube used with proper caution will allow fluids to be injected up to the junction of the large and small intestines. This result encouraged the author to apply remedies directly to the mucous membrane of the large intestine in diseased conditions. In eleven cases of dysentery he injected ten to thirteen ounces of solutions, respectively containing tannin (two grains to the ounce), tannin with laudanum (10–20 drops to the enema), nitrate of silver ($\frac{1}{2}$ to 1 grain to the ounce). The results were extraordinarily good. Already on the second or third day—two injections having been used daily—the stools had become feculent. The author also relates a case of large collection of gas in the intestine of a patient with purpura, where the introduction of the long tube gave exit to the gas, and wonderfully relieved the sufferer.—*Deutsches Archiv f. klin. Med. der praktische Arzt*, April, and *Practitioner*.

FRENCH MEDICAL EXAMINATIONS.—The French medical students do not, like our brave youth, resort to the grinders to get them through their examinations, but have a plan of their own. "It is notorious," says a writer in the *Lyon Medical*, "that the best preparation for examination is not to pore over books or to attend the clinics, but to industriously attend the examinations (which our readers will recollect are public in France). The frequenters of the examination hall soon learn to know all the questions, for they are continually being repeated, most of the judges moving within a circle of subjects from whence they rarely depart. The essential thing is to get to know these, and most especially to remember the reply desired by the examiner. By repeating the consecrated phrase, one is saved from a bad fate; or, if by chance, quitting the ordinary route, we have passed into some unknown region, the reply which we have succeeded in neatly planting serves as our safeguard, for the judge, retaining a favorable remembrance of it, gives us his protection when the votes are taken."—*Med. Times and Gazette*.

CARCUNCULÆ MYRTIFORMES.—M. Demarquay, commenting upon the case of a young woman sent to his hospital from the country, in order to have some malignant tumors re-

moved from the genital organs, observed that, on examination, every thing was found in a normal condition with the exception of the *caruncule myrtiformes*, which, being somewhat enlarged, were mistaken by the practitioner for epithelioma. It is, he observed, by no means rare for him to have similar cases sent to him by practitioners who are not accustomed to the constant examination of the organs like himself.—*Union Médicale*, June 20th.

MR. LISTER has been appointed to the chair of Clinical Surgery in the Edinburgh University, vacated by Mr. Syme. Although there were several prominent candidates for the place, it is pretty generally conceded that no more fit appointment could have been made. Mr. Lister's promotion creates a vacancy in the chair of Systematic Surgery in the University of Glasgow, the prominent candidates for which are Drs. George Buchanan and G. H. B. Macleod, both eminent in the department of surgery.

AN unfortunate Irishman, suffering from intermittent fever, found a ministering angel in the person of one Mrs. Monaghan, of a medical turn of mind, who gave him for his malady an infallible specific, consisting of a paper of chewing-tobacco infused in three tumblers of ale; one to be taken *pro re nata*. With the second dose the disease disappeared—taking the patient's life along with it. At the coroner's inquest:

Margaret Monaghan, residing at First Avenue and Sixty-first Street, said: I have often given a cure for fever and ague, but I have not given it for the past ten years; on this occasion I gave the cure to Cornelius Kellaher, the deceased, at his request, on last Saturday, at the house of Mrs. Colbert, on First Avenue. The cure was composed of a quart of ale and a ten-cent paper of tobacco, which he drank; immediately after drinking it, a vomiting set in; this I encouraged, by ordering him to drink lukewarm water; he vomited some six or seven times, and at each time it continued for about three minutes; he took the dose about 2 P. M.; a little before four he said he was better, but thought that something still remained in his right side; two men, present at the time, advised him to take more. I then mixed a half dose for him; and, in half an hour after taking it, he lay back suddenly on the bed, and expired. He refused to take the warm water from me.

William Shine, M. D., sworn: deposed that he made a *post-mortem* examination on the body of the deceased, Cornelius Kellaher, on the 22d instant. He was assisted by Dr. Cushman. On opening the stomach, the mucous coat was found intensely congested; a quantity of dark-colored fluid was in the stomach, having the appearance and smell of tobacco-juice. The heart was enlarged, fatty, degenerate, flaccid, and full of fluid. From the appearance and testimony in the case, I am of opinion that death was caused by syncope, resulting from exhaustion, consequent upon excessive vomiting, produced by a poisonous dose of tobacco.

The inquest was adjourned for further evidence, and the facts will be reported to the Board of Health for their action.

In the name of medical jurisprudence and of common-sense, we would ask what "further evidence" could be required to bring conviction, even to the intelligence of a New York coroner?—*Medical Gazette*.

THE following characteristic note, which has a special interest for medical men, we take from the *American Literary Gazette and Publishers' Circular*:

Dr. Mandl recently had photographed a German picture of the sixteenth century, which on one side of the panel represented a most lovely face of a young girl literally radiant with life. On the other side was a hideous skull. He sent a copy of it to M. Victor Hugo, and asked him to put into French verse the German lines on both sides of the picture. M. Hugo replied: "Dear Doctor: Your valuable present has reached me. A true message of a philosopher to a poet. Death must fear you who cure, and must love me who hope. The lines you desire sprang forth on mere sight of the picture. Your two mysterious quatrains are echoed in two tercets. These:

FRONT.

Chapeau de perles, fleurs et parfums, O printemps!
Je suis belle.—On est belle, hélas! pour peu d'instants.
Comme c'est vite fait de respirer des roses!

BACK.

Me voici rentrée, âme, au gouffre obscur des choses.
Mon amant, rejoins-moi dans la tombe, autre hymen.
Ce qu'aujourd'hui je suis, tu le serais demain!

I have obeyed. Thanks. 'Tis strange, terrible, and true. I kiss Mme. Mandl's hands, and I am yours, *ex imo*.

VICTOR HUGO."

DEATHS FROM CHLOROFORM.—Dr. A. T. Hudson, late surgeon United States Army, records (*Pacific Medical and Surgical Journal*, July, 1869) the following case which occurred in the summer of 1863, in front of Atlanta, Ga. The patient was a robust soldier, belonging to the 76th Ohio Infantry, aged about thirty. He was to undergo an amputation of a portion of one hand. Chloroform was given in the usual way. He had not taken more than six inspirations before the breathing became difficult and stertorous, the pulse ceased, and in a few moments he was dead. Artificial respiration and all other means tried were of no avail. A *post mortem* the next day

revealed nothing. Death was thought to be owing to paralysis of the heart.

In the same journal another case is recorded, which occurred in private practice in the summer of 1855. A strong, robust man, aged about forty years, who indulged in occasional fits of intemperance, fell and dislocated the head of the humerus. Three days after—the patient meanwhile becoming quite sober—the physician in attendance sent for Dr. E. Bently, United States Army, to reduce the dislocation, and, while the latter was making proper preparation, chloroform (amount not known) was poured upon a sponge and held to the nostrils. After a very few inhalations, unconsciousness ensued, and, with the heel in the axilla, the head of the humerus was replaced with an audible snap. Immediately thereafter the face became livid, and death took place from asphyxia. For more than an hour, though deserted by the alarmed attendants, and even by the other doctor, Dr. Bently employed all means to resuscitate, at his disposal, but in vain. He learned that the man was reported by his physician to have died of apoplexy.

In Memoriam.—At a special meeting of the faculty of Jefferson Medical College, of Philadelphia, convened in reference to the death of their late associate, Charles D. Meigs, M. D., it was

Resolved, That the members of the faculty have heard with deep-felt sorrow of the demise of their late distinguished colleague, Charles D. Meigs, M. D., Emeritus Professor of Obstetrics, whose name and fame have been so closely associated with the history of the institution.

Ripe in years and rich in all the honors that can be gathered from the broad field of science and literature, he has closed a long and active life, efficiently and enthusiastically devoted to the best interests of the sick and suffering, and the extension and improvement of medical science.

Warm-hearted, genial, and amiable in his intercourse with his fellows, brilliant, wise, and impressive as a teacher and writer, the faculty of this college and the profession at large may well sorrow over the extinction of a life so rich in usefulness and renown.

It is further resolved, That the faculty of the Jefferson Medical College, in deep respect to his memory, will attend his funeral, and that a copy of these resolutions be transmitted to his family.

B. HOWARD RAND, M. D.,
Dean of the Faculty.

WE have received from Dr. Toner, of Washington, a copy of the following circular. This plan of collecting a medical library must commend itself, for its benefits are not to be measured by the advantages that may accrue to the few local physicians who have easy access to the library. It is a work for the future, and the propriety of placing the collection at

the central seat of our Government must be admitted. Our influence shall not be wanting to further the project.

WASHINGTON, D. C., August 16, 1869.

Editor New York Medical Journal:

DEAR SIR: The medical profession, and scholars generally, are aware of the ephemeral form in which most of the early American contributions to the literature of medicine were given to the world, and, indeed, in which many of the more recent are being published. This condition of much of our professional literature is deeply regretted by all, and particularly by those whose taste and research lead them to refer to this class of works, when the fact is made apparent that whole editions of tracts and books have entirely perished through neglect. With a view to provide against such a contingency, and preserve, for the benefit of the profession, in some accessible and central locality, copies of all home medical publications, the American Medical Association, at its annual meeting in May last, resolved to establish at Washington, D. C., a library or repository of American medical works, to which it is believed all the current medical literature of our country will be cheerfully, promptly, and constantly contributed.

It is designed that this repository shall contain copies of every contribution by American physicians to the literature and science of medicine, from the earliest settlement of our country, no matter how or where published, including all the books, pamphlets, journals, and even unpublished manuscripts, that can be collected.

Nearly all physicians have some book or pamphlet of the character indicated, which may contain facts relative to the diseases of his section published nowhere else, which they can contribute without inconvenience, and which of itself is of trifling value; yet when many such treatises are assembled together from all parts of our country, embracing its nosology from the earliest period of its settlement, they will form a collection of the greatest importance to the profession.

The librarian of Congress has kindly consented to receive and preserve as a special deposit, in the government fire-proof building, any collection of medical works the American Medical Association may make, and will catalogue, and keep them in condition to be readily consulted. The accommodation thus offered the Association for accumulating and preserving its library free of cost is generous and most encouraging. Gentlemen having scarce and valuable American medical publications will not hesitate to deposit them in such a safe, central, and natural repository, where they will be preserved

from destruction and their usefulness secured to the profession. An appeal for contributions to this library is now made, personally and distinctly, to each and every American physician, medical publisher, and editor, to deposit copies of their works in this repository, where they will be carefully kept for reference and catalogued with the name of the donor.

We, the undersigned members of the American Medical Association, having been selected to carry into effect, as far as practicable, the resolution of the Association to establish a library, have now completed all the necessary arrangements for the reception and preservation of those books which may be sent to our care. Contributions of the class of works mentioned are therefore respectfully and earnestly solicited from every source. Packages may be sent by mail or by Adams's express, to either of us, which will be promptly acknowledged on reception, and a record of titles kept. The library-mark of the Association will be pasted on the inside of the cover of each volume, which will contain also the name of the donor.

Hoping that you may further the project to the extent of adding at least your own productions,

We remain respectfully,

ROBERT REYBURN, M. D.,
Librarian.

JOSEPH M. TONER, M. D.,
Library Committee.

THE EFFECTS OF HASHISH.—A writer in *Appletons' Journal* of September 4, 1869, thus describes the effects experienced from the use of this drug :

I have often taken the drug, rather for curiosity to discover what its attractions might be, than for aught of pleasurable excitement I ever experienced. The taste of the potion is exactly what a mixture of milk, sugar, pounded black pepper, and a few spices would produce. The first result is a contraction of the nerves of the throat, which is any thing but agreeable. Presently the brain becomes affected; you feel an extraordinary lightness of head, as it were; your sight settles upon one object, obstinately refusing to abandon it; your other senses become unusually acute—uncomfortably sensible—and you feel a tingling which shoots like an electric shock down your limbs till it voids itself through the extremities. You may stand in the burning sunshine without being conscious of heat, and every sharp pain is instantly dulled. Your cautiousness and your reflective organs are painfully stimulated; you fear every thing and everybody, even the man who shared the cup with you, and the servant who prepared it; you sus-

pect treachery everywhere, and in the simplest action detect objects the most complexedly villanous. Your thoughts become wild and incoherent, your fancy runs frantic. If you happen to exceed a little, the confusion of your ideas and the disorder of your imagination will become intense. I recollect on one occasion being persuaded that my leg was revolving upon its knee as an axis, and could distinctly feel as well as hear it strike against and pass through the shoulder during each revolution. Any one may make you suffer agony by simply remarking that a particular limb must be in great pain, and you catch at every hint thrown out to you, nurse it and cherish it with a fixed and morbid eagerness that savors strongly of insanity. This state is a very dangerous one, especially to a novice; madness and catalepsy being by no means uncommon terminations to it. If an assembly are under the influence of the drug, and a single individual happen to cough or laugh, the rest, no matter how many, are sure to follow his example. The generally used restoratives are a wineglassful of pure lemon-juice, half a dozen cucumbers eaten raw, and a few puffs of the hookah; you may conceive the state of your unhappy stomach after the reception of these remedies. Even without them they generally suffer from severe indigestion, for, during the intoxication, the natural hunger which the hashish produces excites you to eat a supper sufficient for two days with ordinary circumstances.

THE SELF-ACTING NORWEGIAN COOKING APPARATUS.—In the Jan. (1868) number of the JOURNAL we called attention to this apparatus, which was on exhibition at Paris, in the "World's Exposition" of 1867. The apparatus seems not until recently to have attracted the attention to which its merits entitle it; and we therefore gladly reproduce, from the *Scientific American*, a full description of it:

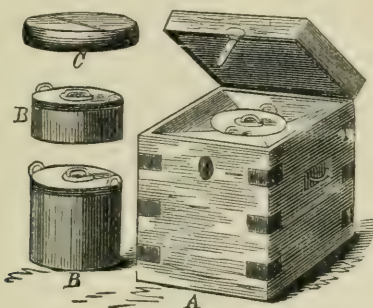
The announcement that the new experiment in coöperative housekeeping now on trial at Salem, Mass., has brought the Norwegian cooking apparatus into use as a means of transporting dinners, "all hot," from the coöperative kitchen to the respective coöperative tables of those who have joined in the experiment, has attracted special notice to this useful implement.

We gave a short notice of this device on page 346, vol. xix., but, as many of our present readers may not have seen it, and much inquiry is now being made in regard to it, we will, at the risk of repeating ourselves to some extent, give an illustration and a more detailed description of the apparatus.

It is constructed in the most simple manner, of a wooden

box lined with four inches of felt, in which the saucepans containing the food, previously boiled and maintained at the boiling point for five or ten minutes, according to the nature of the food to be cooked, are placed. The heated saucepans are covered with a thick felt cover, and, the lid of the box being fastened down, the rest of the cooking is done by slow digestion, no more heat being added.

The heated vessels containing the food will retain a high temperature for several hours, so that a dinner put into the apparatus at eight o'clock in the morning would be quite hot and ready by five in the afternoon, and would keep hot up to ten or twelve at night, because the felt clothing so completely prevents the escape of the heat; and, as the whole is enclosed in a box, there are no currents of air to carry off any other heat by convection.



A is the box, lined with felt; B B the saucepans fitting into the box; C the felt cover, to be placed on the top of the saucepans.

The principle on which this cooking apparatus acts is that of retaining the heat; and it consists of a heat-retainer or isolating apparatus, shaped somewhat like a refrigerator, and of one or more saucepans, or other cooking-vessels, made to fit into it. Whereas, in the ordinary way of cooking, the fire is necessarily kept up during the whole of the time required for completing the cooking process, the same result is obtained, in using this apparatus, by simply giving the food a start of a few minutes' boiling, the rest of the cooking being completed by itself in the heat-retainer away from the fire altogether.

Directions for Use.—Put the food intended for cooking, with the water or other fluid *cold*, into the saucepan, and place it on the fire. Make it boil, and, when on the point of boiling, skim if required. This done, replace the lid of the saucepan firmly, and let it continue boiling for a few minutes. After the expiration of these few minutes, take the saucepan off the

fire and place it immediately into the isolating apparatus, cover it carefully with the cushion, and fasten the lid of the apparatus firmly down. In this state the cooking process will complete itself without fail.

By no means let the apparatus be opened during the time required for cooking the food. The length of time which the different dishes should remain in the isolating apparatus varies according to their nature. It may, however, be taken as a general rule that the same time is required to complete the cooking in the apparatus as in the ordinary way on a slow fire.

The advantages of this apparatus are thus detailed by Herr Sörensen, the patentee, whose attention was first directed to the subject by the Norwegian peasants, who heat their food in the morning, and while away in the fields keep the saucepan hot by surrounding it with chopped hay:

1. *Economy of Fuel*.—Varies according to the length of time required for cooking the different sorts of food. For those requiring, in the ordinary way, only one hour's cooking, the saving is about 40 per cent.; two hours, 60 per cent.; three hours, 65 per cent.; six hours, 70 per cent. In the case of gas being used, the saving would be greater still.

2. *Economy of Labor*.—A few minutes' boiling is sufficient. No fire is necessary afterward. The cooking-pot once in the apparatus, the cooking will complete itself. Over-cooking is simply impossible, and the process of cooking is infallible in its result. The food will be cooked in about the same time as if fire had been continuously used. But the food need not be eaten for many hours after the cooking process is complete; so that half an hour's use of a fire on a Saturday night, for example, will give a smoking hot dinner on Sunday.

3. *Portability*.—The weight of the apparatus, complete, varies from 18 to 50 lbs. The apparatus can, in proportion to its dimensions, be carried about with great facility, without interfering with the cooking process. By means of a large apparatus—for instance, following on a cart a detachment of soldiers on the march—it is possible to provide them with a hot meal at any moment it might be found convenient (as may be proved by official reports from the officers of the Royal Guard at Stockholm, in the possession of the patentee).

Again, fishermen, pilots, and others whose small vessels are not generally so constructed as to enable them to procure hot food while at sea, may easily do so by taking out with them in the morning an apparatus prepared before their departure. It is, in short, a thing for the million, for rich and poor; for the domestic kitchen, as well as for persons away from their homes. It cooks and keeps food hot, just as well

when carried about on a pack-saddle, on a cart, or in a fisherman's boat, as in a coal-pit or under the kitchen table.

4. *Quality and Quantity of the Food prepared.*—Where other plans of cooking waste one pound of meat, this apparatus, properly used, wastes about one ounce. The unanimous testimony of those who have used it pronounces the flavor of food cooked in this manner incomparably superior to that which is ordinarily produced.

5. *Simplicity of Use.*—One of the greatest advantages of this invention is, no doubt, its simplicity and practical application. There is no complication of hot-water or air pipes to retain the heat, no mechanical combination whatever for producing a high degree of heat by steam pressure; consequently there is no necessity for steam-valves or other combinations which would render the use of the apparatus difficult and dangerous. Any person will, without difficulty, be able to use the apparatus to advantage after once having witnessed it in operation. No special arrangement is required in the kitchen for using the apparatus. Any fuel will do for starting the cooking.

6. In addition to all these advantages, the complete apparatus constitutes the "Simple Refrigerator" for the preservation of ice, which has attracted so much notice, and had such warm approval from medical men. It will keep ice in small quantities for many days.

WHEN TO TREPHINE.—M. Chassaignac (*L'Union Médicale*) advocates trephining in two conditions only: 1. When there is a lesion situated in a definite spot, the seat of which lesion is accurately ascertained, and the effects of which may be removed by the operation. 2. When there are dilated pupils, with symptoms of general compression, which symptoms are tending infallibly to produce death.

PRUSSIC ACID.—We learn from the *Journal des Connaissances Médicales* that, at the last sitting of the French Academy of Medicine, Dr. Scoulteten communicated the substance of an essay which created quite a sensation. It was a posthumous disquisition on hydrocyanic acid, found among the papers of the late celebrated Professor Schoenbein, of Baden. The question discussed was, whether there is a test for the above-mentioned liquid, besides those of M. Liebig and M. Buignet, which, within certain limits, may reveal the presence of prussic acid, but is insufficient to fix its quantity and detect a crime with certainty. Professor Schoenbein then proceeds to describe a reagent discovered by himself, and delicate enough to bring out to view even the millionth part of a drop, whether

diluted with water, or vaporized in the air; a circumstance affording a new proof of the incalculable divisibility of matter. Dr. Scutteten, who lives at Metz, announced in his communication that he had repeated the late Professor Scheibin's experiments with the aid of two chemists, MM. C. and Pont, and that he begged to submit some of the prepared by himself to the Academy for further trial. specimen forwarded was of the kind called filtering paper, and had been soaked in a solution of three gms. of guaiacum resin in 100 gms. of alcohol. To use it, a solution of ten decigr. of sulphate of copper, in fifty gms. of distilled water, should be made, and the paper, which is white, cut into narrow slips. One of the latter being wetted with the solution, it is then exposed to the action of the minute quantity of hydrocyanic acid dissolved in water and suspended in the air; the paper will then instantly turn blue. Dr. Scutteten remarks that these slips of paper will be useful in examining the quality of the medicinal waters or syrups containing a very small quantity of the acid. The paper need only be placed on the unstoppered neck of the phial containing the medicine, and the blue color will at once become visible. Various other experiments are described, all tending to the same result.—*Medical Press and Circular*.

A PARAGRAPH has been round the scientific papers stating that a French naturalist has been measuring the tree-trunks in a forest, and has found them all broader in the east-west than in the north-south direction: the causes of the unsymmetry being ascribed, not very obviously, to the rotation of the earth. Well, another French arborist has been similarly gauging the trees in the neighborhood of Toulouse, and he finds that the greatest swelling of their trunks is toward the east-south-east point of the compass. The explanation offered by this second investigator is more philosophical than that of his predecessor. He refers the deformation to the early morning sun, which warms the easterly parts of the tree more suddenly than the rest, stimulates the flow of the sap, which grows sluggish during the cool of the night, and draws up the nourishing moisture from the soil in greater abundance on the excited side than on those portions of the trunk where the warming is more gradual and its effects less active. Naturally, increased vitality of one side, be it animal or plant, results in development, or larger growth of that side. There are traditions of some plants turning their flowers toward the sun: the truth may be that the sun only promotes the growth of those blossoms upon which it sheds its direct warmth. As Dulong said, every degree of the thermometer entails a law of Nature.—*Every Saturday*.

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Original Communications.

ART. I.—*Inquiries relating to the Therapeutic Effects and Uses of Mechanical Vibratory Motion.* By GEORGE H. TAYLOR, M. D., New York.

THROUGH a series of years I have been engaged in making experiments and observations relating to the therapeutic influence of vibratory motion.

The subjects under observation were persons of all ages and both sexes. They were, in general, suffering from chronic disease in various forms and all degrees. Some had severe local affections, and a considerable number were completely helpless and bed-ridden. Many hundreds of these cases have been submitted to the treatment described, some for a few weeks, others for many months, thus affording a varied pathological record, and, it might be inferred, sufficient advantages of experience for determining, with some degree of propriety, the therapeutic value of the agency under examination. These facts are mentioned, that the reader may not object to the

conclusions set forth in this article on account of alleged inadequate details.

Being thoroughly confident of the great remedial value of the agency under consideration, and that this value will be prized in proportion as it is understood, I submit these statements regarding it to the unprejudiced consideration of a generous medical public.

There are two natural agencies whose remedial effects may be considered as somewhat correlated with vibratory motion, and which are universally employed, and the common property of the medical world. These are the familiar ones of *heat* and *electricity*. It can be easily demonstrated that vibration produces, and therefore includes, heat and static electricity. The former, moreover, carries all the physiological effects of these forward to more radical, permanent, and satisfactory results; is under such perfect control of the prescriber, that he predicts effects with a large degree of confidence, and at present only claims a similar test of value—experience—to assume a high place among therapeutic agencies.

WHAT IS MEANT BY VIBRATION.—Vibration, as applied to the body, may be defined *a rapid, wave-like motion—propagated in constant series through the soft, yielding substance of the body, from a convenient external point.*

Such action depends for its effect on the imperfect solidity of fleshy substance, and the consequent tendency of the minutest elements of the organization to impinge and glide upon each other, when subjected to an impulse from without.

The action consists of a rapid displacement and replacement, and consequent attrition of the cells, fibres, and membranes that are in proximity, together with displacement of the fluid contents of these structures, and of the fluids in which they are bathed.

At this point, a rational theory of the beneficial effects of vibration will doubtless suggest itself to the reader. For the living being is an arena of incessant activity of a multitude of kinds, through all its parts. Change of place, of fluids, of molecules—gliding of fibres, membranes, and cells, etc., are constantly going forward. How are all these actions sup-

ported? Doubtless there are numerous causes, many of which we do not, but some of which we do, understand. Let *volitional* activity cease, and the system soon stagnates; it barely vegetates, generating but a minimum of available force. It is the activities of life, derived from the various impulses of the will, to secure apparent good, that maintain health.

But the invalid is one whose ability to *do* is restricted, or whose power flows too abundantly in wrong (nervous) channels. The first symptom of ill-health is the restriction of available power—an incapacity to sustain *through action* the interior molecular and chemical operations, upon which, in turn, health and power so much depend. But these interior actions and their consequences *may be fully supplied by motion communicated from without*, and this is just what vibration appears to do.

HOW FORCE AFFECTS NUTRITIVE ACTION.—The effects of these actions communicated from without, all are familiar with, at least in some degree. For every one is aware of the peculiarly grateful sensations the invalid experiences when the surface of the body is gently *rubbed* by the hand of an attendant; in fact, this act is really not the least important duty of the nurse. It is often found that a great deal of energetic friction is of excellent service, and such advantages are insisted on by the medical adviser in a great variety of ailments, differing radically in their external manifestations or symptoms. Indeed, this very thing has been a common remedial recourse in all ages and among all nations.

Suppose the attendant varies the operation, and, instead of a rubbing motion, he imparts very light, rapid strokes, directed perpendicularly upon some portion of the body. The force of the action is expended chiefly beneath the surface in this case, and another class of grateful sensations is evoked, especially if the part were previously suffering from pain. Effects similar to these might be multiplied, affecting various and differently-related portions of the organism, according to the direction, degree, and rapidity of the impulse. It is evident that this would afford, through the feelings, a vague clew to possible important benefits.

A little consideration will show that the idea of therapeu-

tic advantages through the channel here indicated is not so far-fetched or illusory as might at first be supposed. We may at least comprehend some of the processes whereby such effects come.

The motion and pressure of the hand, in the case above cited, may be regarded as expressing force in pounds and ounces. This force is the collected energy of organized substances in its minutest parts. Its origin, so far as we can trace it, is in the ultimate physiological and chemical activities of certain elements of the body. The anatomical hand, so to speak, being the medium or channel for the expression of the aggregate power of an infinitude of distinct molecular elements and chemical substances, is now applied to oppose and overcome the resistance of external and wholly disconnected objects. The internal forces are transformed to external power.

When, now, this force is applied to a solid body, it overcomes the inertia of the body *en masse*. The integral portions do not change their mutual relationship.

But, if the same force be applied to another living being, which is constituted of soft or movable parts, it is evident that the force thus employed overcomes not the inertia of the whole, but that of its minutest and invisible parts; is in fact distributed among these primary elements and causes of animal power.

But motion of the incipiently vital elements is necessary in order that they may fulfil their destiny; that the *becoming* muscle and nerve, may really *become* those instruments of power, that primary organization may *occur*. Each and every atom thus destined is by motion urged onward in its career to the consummation of its organic purpose.

Without such motion, organizing elements could never be brought into due place, but must ever remain unendowed with vital privileges. Chemical changes too, so necessary in the rearrangements of molecules to conform to the uses of vitality, and quite as important in their destruction and dismissal from service, could never take place unless the materials concerned are moved into contact, and within the sphere of new chemical influences.

It hence appears that, when force exterior to the living

body is expended upon such body, it is not lost, but is distributed among its minutest elements, where it becomes directly serviceable to vital needs. Though not transformed to vital force, it supplies the *very conditions* in which this force originates, and thus becomes a direct aid to its manifestation. This fact is especially apparent in cases where vital duties are illy performed, and where this power is evidently defective, as is the case in most forms of chronic disease.

Practically, it is quite impossible to carry forward the experiments above indicated to satisfactory results. The effects above described are produced in too limited a degree to be conspicuous. Besides, these effects are exactly in the direction of physiology, and are inevitably merged with these ordinary and unnoticed interior acts, as indeed they should be. Pathological facts arrest our attention in proportion to their gravity; physiological facts are unnoticed in proportion to their perfection.

No really curative plan, or reliance based on effects producible by the hand of an operator, has ever been established, because the power of the operator fails too soon. Indeed, more abundant power than the hand can afford was necessary to demonstrate a *principle* of action. Without further recourse, curative effects from this source must ever prove fragmentary and unreliable.

It hence became necessary to contrive apparatus, dependent for its work upon a more prolific source of power. This apparatus must be capable of infinite degrees of various kinds of action. It should be prompt in obedience to the will of the operator as well also as to the feelings of the patient.

VIBRATORY APPARATUS.—After much research and no small amount of experiment, these desirable ends in the application of vibratory operations have been practically realized. A series of machines has been constructed, capable of the various uses hitherto found desirable. These applications comprise several methods.

In the *first* method of vibrating, the person subjected to the operation rests in a lying position upon the apparatus (which has the general appearance of a couch), and some se

lected point of the under position of the body is subjected to the rapid but very light strokes of the instrument operating from beneath, the patient being so situated as to adjust the impinging force so as to render it perfectly agreeable to his feelings.

The immediate mechanical effect consists of a rapid series of vibratory waves, whose degrees of intensity shade off in every direction from the impinging and radiating point. As the physiological and therapeutic effects will be revulsive, stimulant, etc., according to these degrees of intensity, it is plain that the desired effect may be secured by adjusting the position according to the diagnosis or medical ideas of the case as related to means employed. Every portion of the body may thus be subjected to various kinds of action, and so secure their varied effects.

The *second* method of applying the action consists of the short, quick, *reciprocating* motion, an instrument applied in contact with some selected portion of the body. Various effects are obtained through this action, according to the degree of pressure. If this is slight, the action is expended chiefly on the surface of the body; if the pressure be increased, a similar action is produced among the deep-seated structures of the interior, and effects will be produced accordingly.

This action is tolerably understood by the term *rubbing*, when the contact of the impinging instrument is so slight as to allow it to glide upon the skin. With more pressure, the skin is comparatively unaffected, while the frictional effect is expended in deeper parts.

In this operation also, the apparatus is so contrived that the degree of force and motion employed may be wholly governed by the person receiving the action.

The *third* method is limited to the extremities. It consists in *oscillating* the limb, whether leg or arm, upon its axis, with a short, quick, reciprocating motion. This produces the mechanical effect of attrition between ultimate anatomical elements, with alternate slight pressure and relaxation, in rapid succession.

An analysis and comparison of the motions above described show their mechanical forms to be similar, and that

the choice in their use will depend more on local convenience than the peculiar specific effects distinguishing them.

The *degree of rapidity* with which these vibratory motions may be applied generally ranges between one and two thousand vibratory acts per minute. Here, again, is opportunity to secure a variety of effects, such as experience proves the most desirable in different cases. The more rapid rate produces effects somewhat allied to a diffusive stimulant, except that it is more permanent, and is not followed by any sign of depression. The slower rates secure reactive effects of various grades quite as valuable in a therapeutic point of view. The specific effects to be described diminish with the rate of motion, till this ceases to be vibratory, and glides into that of *kneading*, giving it quite another character, whether judged of by the effect on the sensations or the nutritive functions. Very slow motions of this kind, if accompanied with due pressure, have still a therapeutic value, but belong to another class.

The *time* during which any portion of the body may be subjected to the vibratory action will depend on the pathology of the case, and what therapeutic end is desired. Especial reference is had to the condition of the nervous system. In paralysis, the different forms above described may be used almost without stint, if applied at the proper points. In other forms of nervous affection it is, when well directed and not used in excess, a valuable as well as powerful remedy. Every thing depends on the purpose and design of the application, and the demeanor of the patient under its use. In short, the *degree* of success, in persons of great sensitiveness, depends on the tact of the operator.

Having thus explained what is meant by vibratory motion, as applied for curative purposes, to the various regions of the body, we are prepared to examine how the physical, physiological, chemical, and vital operations of the organism are influenced by applications of this kind, and also how these influences are turned to therapeutic advantage.

VIBRATION PRODUCES HEAT.—Perhaps the most direct and conspicuous of the effects of vibration is an *increase of temperature* of the part subjected to the action. No matter how

prolonged and obstinate the previous feeling of cold in the extremities, a few minutes' employment of this agency quite invariably restores the normal temperature. The same is equally true of other regions of the body besides the extremities. The feeling of warmth thus induced gradually diffuses itself from the point to which the action is applied, over the whole body. An active perspiration sometimes succeeds the access of heat, and a softening of the skin by increase of insensible perspiration is a constant result of the process. The temperature has not been observed to rise above the natural standard, except in case of too prolonged application of the agent, on several successive days.

The vibratory operation has in fact been demonstrated to be a prompt and reliable means of permanently restoring the natural temperature to any portion, or to the whole of the body, whenever this is deficient. Indeed, there has been found no condition of disease which effectually resists this heat-producing cause. It is hence a means of depriving chronic disease of its most constant and troublesome characteristic.

This increase of heat may doubtless be referred to two sources. The *friction of fluids* and solids, under agitation, has long been demonstrated to be a cause of heat, the source being the motion which has become, by this means, transformed to heat, and furnishes an illustration of the correlation of forces.

But the chief source of heat in this case is probably the increased *chemical action* that is hereby superinduced, particularly that occurring through the agency of oxygen. This presumption is justified by the fact that the *products of oxidation, passing from the body, are increased by vibration*.

The evidences of increase of *oxidation* produced by the vibratory process are too strong to admit of question. These consist in marked dilatation of the chest and increase of the amount of air held by the lungs that immediately supervene, in freedom and ease of respiration, in increase of the products of oxidation as denoted by the moisture of the skin, and increased amount and change in color of the urinary secretion. No exact experiments have demonstrated the amount of increase of carbonic acid exhaled, but we are warranted in pre-

suming that this is in at least equal ratio. As regards urea, the obvious change of color and diminution of extractives, the increase of amount and change of quality of the urine, together with the effect in certain cases of disease, as rheumatism, afford strong proof that this representative of healthful elimination is coincidently increased by the operation of the same cause.

VIBRATION CAUSES ELIMINATION.—The effect of this increase of chemical action secured by vibration is expended chiefly on the retrogressive, wasting elements of the system—a consequence of the utmost importance in chronic illness. For it is at just this point in these cases that the failure exists. According to Lehmann, the products of oxidation are always diminished in disease. This statement is corroborated by other investigators in physiological chemistry. In fact, to the comprehension of all thoughtful observers, the furred tongue, the local congestions, the evidences of “biliousness,” the dryness of the skin, coldness of surface and extremities, with a retinue of similar symptoms, are evidences of the presence of incompletely oxidized and therefore retained matters. Elimination is the immediate and inevitable consequence of carrying this act forward to completion, because the products of oxidation, secured by this means, become aëriform and fluid, and at once find exit through skin, lungs, and kidneys.

The practical importance of this point it is impossible to exaggerate. Indeed, it is the indirect effect of all remedies, whatever be their aim, to restore the proper relations between the supplies and waste, by causing a more perfect use and disposal of food. Whatever else be the purpose of the body, it is, *first*, an oxidizing apparatus. The other purposes of bodily existence are fulfilled in about the ratio that the perfection of this function is attained.

It follows that the kind of remedial assistance most needed is that which aids in perfecting this physiological process, as supplying at once the ordinary means of destroying morbid principles, and furnishing an antidote for their effects.

The process is simply that of bringing these mobile elements of the system, which are seeking alliance, into contact. This secures the completion of those atomic changes which it

is the endeavor of physiology to secure. The test-tube in the hands of the chemist, which on agitation instantly indicates the expected reaction, illustrates the effect of motion in the body in fulfilling the chemico-physiological tendencies of its constituent elements.

The oxygen held in solution by the blood becomes most potent and efficacious when brought into *vigorous* contact with oxidizable materials. The blood, on the other hand, cannot attract this element from the air of respiration in greater proportion than it is yielded to the system for the above-described purposes. In short, it is increased energy of chemico-vital affinities that needs to be vigorously asserted, in order to meet the requirements of the chronic invalid.

This view is in perfect harmony with ordinary medical practice. It only presents means more direct, and fulfils indications more completely. For *all* remedies do something either directly or indirectly toward the end here in view, or they fail to satisfy expectation concerning their use.

Practically, these views are fully justified by our experience of the effects of vibration. For, as the products of waste rise to the normal standard, both in quality and amount, the countenance brightens, the appetite and strength return, and all those evidences of disease which constitute physical symptoms coincidentally disappear.

REVULSION.—No more reliable means of securing revulsion is at the command of the physician than through vibratory operations of the extremities and skin. The *oscillatory* vibration of the extremities, and the *rubbing*, have been mentioned as producing increase of heat in the parts to which they are applied. The increase of temperature, it hardly need be said, is always accompanied by a fuller flow of blood to those parts. The degree and efficacy of this effect are soon indicated by a relief from the sensation of pressure and pain in parts previously suffering, as the head, chest, spine, or digestive organs, indicating, apparently, a diminution of fluid where previously too much was retained, accompanied by an actual transfer of a considerable amount of blood to the parts subjected to the operation. As this purpose is secured without any injurious effect, or indeed any but agreeable sensations at the points to

which the applications were made, it follows that the operation may be repeated indefinitely till the full degree of the desired revulsion is permanently secured. The contrast between this method and those so long in vogue, when pain and injury to the skin are supposed to be necessary to secure the effect described, is very great, and highly favorable to the vibratory method.

REMOVAL OF CONGESTION.—*Capillary congestions* meet with a satisfactory remedy in vibration. In this condition the capillary walls are dilated, the calibre of the vessels is increased, and the rate of flow in the minute vessels diminished. When this condition has long existed, the contained blood is deteriorated, and we are informed by pathologists that gelatinous corpuscles occur, which, together with the adherent blood-corpuscle, become attached to the capillary walls and to each other, thus causing partial occlusion of the vessels.

The effect of vibration, in removing this condition of things, can be easily understood. The mechanical impulse, instantly narrowing the walls of these dilated vessels, drives their contents forward. The same cause also stimulates the vital contraction of these walls, thus adding to the causes of motion acting upon the current. These causes conspire to force onward and remove the mechanical impediment in these minute vessels, which consequently admit a fresh supply of blood from the heart. The effect of this means is to stimulate and nourish the capillary walls, and cause them to become permanently more contractile, and able to transmit duly their currents, instead of injuriously retaining them.

To produce these effects in a satisfactory manner requires something more than a hap-hazard and blundering way of applying the remedy. The *mode* of application, it has before been intimated, depends on the nature of the case, and a full knowledge of the peculiarities and powers of the remedy, otherwise injury might be inflicted. It is necessary to say here, that a full use of the revulsive means above described is an indispensable preliminary in the production of these effects. This mode of action should be gradually drawn nearer the diseased point, sending, at first, the lighter waves of vibration into the diseased region, being always careful to be guided by

sensations of the patient. The physician may in this way have the satisfaction, as he from time to time examines his patient, of witnessing the removal of swelling (when this has been indolent) as well as pain and soreness from regions that have long and defiantly suffered.

INTERCHANGE OF FLUIDS—ABSORPTION.—As might be inferred, the motion of fluids caused by vibration is not confined to those of the vessels. The interstitial fluids are subjected to equal action. The effect of this agitation is to superinduce an exchange of fluids; those outside the vessels, in which the general tissues are bathed, are transferred to the venous vessels through their membranous walls. This, it will be noticed, is on the principle amplified in works on physical science under the designation of *Osmosis*. The conditions for this action consist of differing fluids separated by membranous walls. Motion being imparted to *one* of these fluids (that within the vessels in this case), the other is drawn through the membrane and joins that in the vessels—conditions, it will be observed, amply fulfilled in the case before us. The *evidence* of the action consists in the diminution of swelling, in disappearance of fat, and in certain cases, at will of the operator, the sudden appearance of what are usually called “bilious” symptoms.]

It hence appears that vibratory action becomes a reliable and radical means of securing interstitial absorption, and of excellent remedial service in case of swollen parts. Practically it is an effective means of reducing hypertrophies of organs, whether internal or external, glandular swellings, and dropsical effusions, whether areolar or in cavities. In the latter case the action of the skin, always increased by the motion described, often becomes for a short time excessive, while the effusion disappears.

The diminution of scrofulous swellings and hypertrophies is probably produced by the joint result of two effects of vibration herein described. First, the reducing effect of the additional oxygen caused to be attracted to and absorbed in the region; then the absorption (through the agency of the same cause) of the liquefied materials into the general currents of the circulation, submitting them, in common with the rest,

to purifying and eliminating causes incessantly operatory throughout the organism. These effects of vibration in scrofulous and other enlargements have often been practically demonstrated.

The operations herein described, it will be observed, consist, not in the expenditure of force, but in its acquisition. There is no exertion, and therefore no fatigue, immediate or remote. No degree of feebleness (in chronic disease) is a bar to the employment of this recourse. There must, however, be no fever or acute inflammation present.

The immediate sensations derived from these applications are unqualifiedly agreeable. Invalids are inclined to fall asleep during the applications. Even in cases of great hyperæsthesia, of neuralgia, and nervous disorders generally, these applications are entirely agreeable to the feelings, and quieting to nervous excitement.

The cases of chronic invalids whose indications are met by the means now set forth, are sufficiently numerous, if indeed they be not quite universal. The primary principles underlying the measures are such as to afford no differences of opinion. As to their relevancy or importance regarded from a therapeutic point of view, a candid consideration is desired of the profession, and it is to this end that I now submit it to their attention.

ART. II.—*On the Spontaneous and Artificial Delivery of the Child in Face Presentations, with the Chin posteriorly.*¹

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MR. PRESIDENT: I purpose this evening offering a few practical remarks on the subject of mento-posterior frank presentations of the face, and their treatment; and more especially when the face rests in the cavity of the pelvis.

¹ This paper was read before the New York Medical Journal Association, June 18, 1869.

I do not refer to mento-sacral positions, because I have never met with a case, nor have I ever noticed a case of cranial presentation in that position. Until very lately, I may say until Madame Lachapelle gave more character and force to the opinion that face presentations were natural, the practical idea was, that it was *improper* and incorrect to trust the delivery to the natural resources, and that every attempt should be made to reduce the presentation to a normal one. Paul Portal, in 1685, gave currency to the opinion that "there is no more difficulty (in these face cases) than in natural ones, although it may be a more protracted delivery." Deleurye adopted Portal's suggestion, and affirmed that "when the face presents, such delivery terminates naturally, though somewhat longer, without the operation of art." Deventer, who considered delivery possible in such presentations, does not the less endeavor to prevent them, and Smellie records that "they should be terminated by version—the forceps, and even the crotchet." This opinion is also entertained by Cazeaux, Chailly, Hodge, Bedford, and Lachapelle herself, provided the chin, if *posteriorly* presenting, does not rotate *anteriorly*. Baudelocque, Gardien, and Maygrier, consider they may be delivered naturally, but counsel a change of the presentation.

The general impression of the medical mind at the present day is, that cases of face presentation should be "let alone"—left to Nature, whether the chin of the child presents anteriorly or *posteriorly*. In actual practice, Tyler Smith observes, the treatment is perfectly simple. By some, face presentations are considered less dangerous and more simple than breech cases. It is certainly true that there is no reason why face cases should not terminate naturally, if the chin is anterior or posterior, provided there is no mechanical defect. If we consult experience, and consider the diameter of the child's head and the pelvis of the woman, the delivery of face presentations is as favorable and nearly as safe as the vertex cases.

I remarked above that face cases were regarded as natural, provided the chin shall present anteriorly, or, if posterior, should rotate anteriorly. Should, however, the chin not rotate, the case presents a different aspect, and this is the point upon which I desire to offer a few observations.

Cazeaux has remarked that "they [mento-posterior cases] are at term one of the most difficult in the obstetric art to treat."

Chailly: "This is impossible to be delivered unless the face should change its position anteriorly."

Hodge: "In truth the child must surely perish, and craniotomy be performed if the child is dead."

Churchill: "The older writers describe the head as emerging from the lower outlet, in face presentations, with the chin posteriorly. A moment's consideration will show that this is an *impossibility mechanically*."

Capuron and Mesnard have endeavored to prove on geometrical principles that delivery by the face in any position is impossible without artificial aid.

Velpeau, who entertains favorable views respecting the internal mechanism of the face in the pelvis, says: "The posterior position of the face I consider *impossible*, for the chin, which must always appear first at the vulva, to descend in this attitude as far as the anterior edge of the perinæum, unless, as Desormeaux remarks, the foetus be an abortion, for the breast would then be entirely within the pelvis at the same time as the head."

Murphy: "They are very rarely met with."

Naegele, Jr., the principal authority who has moulded the obstetric mind of the profession since the publication of his essay on the "Mechanism of Parturition," observes: "The chin always turns itself, in the course of labor, forward under the arch of the pubes, that is to say, if no faulty condition exists, for example in respect of room, or if no external reason for changing the position of the head has led to an attempt to rectify it by converting it into a cranial one, or to have recourse to artificial delivery. In an obstetric practice of thirty-six years, a case never occurred to my father, if no mechanical interference became necessary, where the forehead turned forward and the face placed itself in the usual and opposite direction of the outlet. An immature or untimely foetus may readily place itself during labor in any conceivable position in the pelvis. But, as an example, the expulsion of the face, with the forehead directed forward as a rule, as is stated in many compendia, is

perfectly absurd, and depends either on the author having seen too small a number of labors before writing thus, or, among other things, such a representation owes its existence to the desire of contradiction ; and further, they speak in such a tone as if they would make one believe these pieces of jugglery and rope-dancing were of daily occurrence, but to which Nature never surrenders herself."

I have quoted from these various authors the views which they entertain on this important subject. To assert with those to whom Naegele refers, that the mento-posterior positions are common with the child born with the chin posteriorly, would be very wide of the fact, and would claim a denial from almost all obstetricians at the present day. As well might the author of this paper assert, after equally as long a public and private experience, and in a very large number of instrumental obstetrical cases, because he has *never seen a case of occipito-posterior* cranial presentation terminate as such, either naturally or artificially, that therefore it is perfectly absurd, and it is what "Nature never surrenders herself to." The author has carefully watched these occipito-posterior cranial presentations, and he has in several instances noticed that, while the head was on the verge of being born, rotation speedily ensued, and the labor was terminated with the occiput anteriorly.

I do not propose considering the causes, diagnosis, or prognosis of these cases, as it would occupy too much time of the members of this association.

In face presentations, more than any other presentation of the foetal ovoid, there is a greater discrepancy of opinion, not only as regards the *position* of the child, but also of the mechanism of the labor, and especially with respect to the *treatment* in the mento-posterior positions.

Positions.—The positions of the face are generally regarded as transverse. The right and left mento-iliac, therefore, are the two positions. Chailly, Hodge, and Bedford, make four positions, and Tyler Smith speaks of four, but recognizes only two as occurring in practice, viz., with the forehead to the right or left acetabulum. Cazeaux considers the transverse more frequent than the right-posterior, which he says is erroneous. Tyler Smith, Chailly, and Dubois, with whom my

own experience coincides, make the mento-posterior the most frequent, and Tyler Smith entirely ignores the mento-anterior. On the contrary, the chin placed anteriorly is by some considered the most usual. Gardien, Deleurye, and Stein, admit them as very common, and Stein considers the mento-sacral as the best of all. According to Cazeaux, in his investigations on this subject, he was unable to find recorded more than three cases of frank mento-sacral positions, and I should confirm this point. They are those of Smellie, De la Motte, and Meza. In Smellie's case the child was smaller than usual, and the pelvis was large. In Meza's case it was necessary to apply the forceps. De la Motte says nothing as regards the size of the child or the mother's pelvis.

Flexion is recognized as the normal condition of the child, *in utero*, not only as respects the head being flexed on the chest, but all its members are flexed, and the face when it presents is therefore a *reversed* presentation of the vertex. Now, if we consider the ordinary or general course of presentations of the head, as generally laid down, and by none more decidedly so than by Naegele himself, we shall have the two most frequent cases, whether primitive or secondary, of the mento-posterior presentations, the first in frequency, and the second, with the chin anteriorly to the acetabulum. I have not been able to verify the opinion of those obstetricians who make the transverse position of the face the most frequent. If we consider the pelvis of the mother covered by the soft structures, especially in the positions which the psoas-magnus and iliacus-internus muscles occupy, the transverse diameter is diminished by fully one inch from the dry pelvis, and therefore the oblique diameter becomes the largest; as the mento-frontal diameter is not any longer than the occipito-bregmatic, the usual position when the child's head is flexed, yet the head will occupy the long diameter. I have seen but two cases in the transverse position in the superior strait, and one of them this year in a lady with her second labor. The face presented fairly in this direction, and the child, weighing five pounds, was delivered transversely in two pains. Lachapelle states that she has also witnessed the same circumstance. The positions I have usually found are: 1. The mento-posterior

position with the chin to the right sacro-iliac synchondrosis. 2. The chin anteriorly to the left acetabulum, the reverse of the first. There were twenty-seven cases of the first, fifteen of the second, and two transverse—forty-four cases in all. In one case there were twins, both face presentations.

The child therefore presents itself in the oblique position in the superior strait, passes down obliquely into the cavity of the pelvis, and is born, most generally, in the oblique diameter at the ostium vaginae; for, out of one hundred and twenty-five cases of cranial presentations, which I have marked by nitrate of silver on the vertex to test the obliquity of the child when born, one hundred and five were oblique, the rest antero-posterior, and this is the view entertained by Naegele of the oblique position of the head, and assented to by others. The face follows the same law. Lachapelle, Tyler Smith, and Chailly, admit the greater frequency of the mento-posterior positions. I am not surprised that Roederer, Stein, Smellie, and some of the older obstetricians, should speak of the anterior position as being the most frequent, not only at the entrance of the pelvis, but at the vulva, for they were not conversant with the mechanism of parturition as it is understood at the present day. I agree fully with the views advanced by the authorities quoted above; but, to assert that mento-posterior positions of face presentations delivered with the chin posteriorly are impossible and at variance with facts, I shall endeavor to show are contrary to the truth. Even if this position of the face is not frequent, there is no mechanical or obstetrical reason why the mento-posterior face presentations, even in ordinary cases, should not terminate spontaneously, and that artificial aid can deliver the child without craniotomy, except in very unusual cases.

Treatment.—The different methods adopted at the present day are the following:

1. Relying upon nature to effect the delivery either by rotation of the chin anteriorly, or by cephalic version in the pelvis changing the face into a natural presentation.

2. Artificial cephalic version before the face has engaged in the superior strait. This comprises both internal version and version by external manipulation.

3. Podalic version.

4. Artificial rotation—*a*, by the hand or fingers; *b*, by the vectis, or by the right-angled blunt hook; *c*, by the long curved forceps acting as rotators and tractors.

5. Craniotomy—but before the performance of craniotomy I propose,

6. Division of the perinæum laterally, and afterward the use of the *straight* forceps instead of the curved.

On each of these several propositions I desire to suggest a word or two. No one at the present day doubts that face cases are not delivered as naturally as cranial presentations. The only doubt existing in the mind of the profession is, that but very few cases require instrumental or artificial aid, and the opinion of the highest authorities is that mento-posterior positions are not even delivered naturally when the face occupies the excavation, unless nature may effect the rotation of the chin forward. Previously I have shown that the mento-posterior positions of the face are the most frequent, and that the face is oblique. That Nature, in a large proportion of cases, accomplishes her object by rotating the chin anteriorly as readily as she does in the occipito-posterior cases. Cazeaux has asserted that rotation must and does take place before the child's face has reached the floor of the inferior strait, as the neck of the child will not admit of extension low enough in the pelvis, on account of the chest not being able to enter the pelvis with the occiput pressed into the posterior part of the neck or between the shoulders. Tyler Smith considers that rotation is always accomplished, principally when the chin reaches the ischiatic spine. Should rotation not occur at this period of labor when the face reaches the inferior strait, it is deemed an impossibility for the child to be born in that position if the chin points either directly to the sacrum, or obliquely toward one of the sacro-iliac synchondroses. For my own part I do not consider there is any reason why this class of cases should be so perfectly ignored and considered as impossible or absurd, nor why craniotomy must be resorted to more than in occipito-posterior positions when the child is born with the forehead front and the chin escapes under the pubes, or that these occipito-posterior cases may become face cases

just as the child is being born. Boivin has seen one case of this nature, Bedford another, and Moreau claims two cases. I cannot forget a case of this nature where the forehead of the child was pressing upon the pubes and the pelvis of the mother was ample, as the head of the child was resting in the pelvis low down, and before the cervix became dilated. After complete dilatation the forehead was pressing under the lower part of the pubes, and it seemed then it would be too late for rotation to occur, as every pain appeared only to wedge the head more perfectly in the excavation, but in a few minutes the child was extruded, complete rotation having taken place with the occiput anteriorly. On the contrary, I have never seen a case where the occiput was posterior, and was delivered in this manner either naturally or artificially, which is a rather unusual experience. Is Nature to be ignored? Certainly not. Who has not seen, and that too very unexpectedly in shoulder presentations, when the shoulder is dipping deep into the pelvis, and it would appear to be utterly impossible for the child to be born unless evisceration were performed, the shoulder become more firmly fixed than ever, and spontaneous evolution taking place, and the child delivered in a few minutes by the breech? My impression is that the views of Naegele and some others have allowed the ordinary measurements of the child's head to square with the usual measurements of the pelvis of the woman. They have thus, in a great degree, set aside the spontaneous delivery of the child in face presentations with the chin posteriorly, and if not rotating round, and the forceps should not succeed, resort to craniotomy. There is no member, I believe, of this association, of even the most limited practice, who has not seen cases of ample pelvis and small children—large children with ordinary pelvis. If we take the usual diameters of the child's head, in the flexed and in the extended positions, we shall find that, even in the ordinary measurements of the female pelvis, they are nearly or exactly the same—rather less in the face than in the vertex.

FACE.	OCCIPUT.	
Mento-frontal, 3 inches.	Sub-occipito-frontal, $3\frac{1}{4}$ inches.	
Trachelo-frontal, $3\frac{1}{6}$ inches.	Sub-occipito-bregmatic, $3\frac{1}{4}$ inches.	
Trachelo-bregmatic, $3\frac{1}{4}$ inches.	Biparietal, $3\frac{3}{4}$ inches.	
Trachelo-occipito, $3\frac{3}{4}$ to 4 in.		

It is not, however, in these diameters that the difficulty exists, but in the measurements of the child's head when it is deflected by the occiput coming in contact with the posterior part of the neck. It is frequently stated between the shoulders, but that appears to be very difficult to occur, as the length of the anterior part of the neck will only measure 3 to 4 inches, and the posterior part of the occiput, from the upper portion of the neck to the end of the occiput, will measure $1\frac{1}{2}$ to 2 inches at the most. The depth between the anterior part of the apex of the chest and the external part of the occiput, the sterno-occipital diameter, will measure from $4\frac{3}{4}$ to 5 inches. In twenty-one cases, which I have measured, the proportion was as follows: In three cases, $5\frac{3}{4}$ inches; in five cases, $5\frac{1}{2}$ inches; in two, $3\frac{1}{4}$ inches; in eight, 5 inches; in one, $4\frac{3}{4}$ inches. The weights of the children were from six to ten pounds. Burns is the only authority, I believe, who has the measurements applied to these cases, and the sterno-occipital diameter, according to him, is $4\frac{3}{4}$ inches. Comparing this diameter of the child's head and chest with the capacity of the pelvis, even in ordinary pelvises, we shall perceive there is as much space for the face and the upper part of the thorax to enter the pelvis as we should have in large heads or well-ossified cranial presentations. It is not alone in the diameters of the child's head or pelvis of the woman, as it is in the ample pelvis we sometimes meet with—not solely in the entrance, but the outlet. We see this in short-statured women, and also the direction of the pubes, its slanting more outwardly, and shorter, and in the divergence of the pubic rami, and the depth of the pelvis and a straight coccyx. The soft structures claim an important consideration. The relaxation of the soft parts, the shortness of the perinæum in primiparæ, or its rupture in multiparæ. On the part of the child, there is a want of proper ossification of the cranial bones—the fontanelle is large, the bones easily overlapping—for, if it were not for the moulding of the bones in tedious cranial cases, the child would not be delivered in many cases without artificial assistance. Another difficulty sometimes appears to exist and makes the case more tedious in vertex presentations, which is the circumference with which the head enters the pelvis, and in the unusual relations which

the peculiar position of the fœtus induces. The head of the fœtus, when born by the vertex, is lengthened in the longest or diagonal diameter, that is, from the chin to the vertex; the vertex is the highest point toward which the roof of the skull forms a gradually inclined plane from the forehead. The diagonal diameter surpasses ordinarily the straight one from forehead to vertex one inch, so that the two diameters form two lines which, when the head is looked at in profile, makes an irregular triangle.

The occiput of a child born in face presentations appears drawn out or lengthened solely in the direction of the straight diameter; the roof is but slightly arched, being quite flat, and ends in a sharper angle at the forehead. The difference between the straight and diagonal diameters disappears, and the two lines drawn from forehead to vertex, and from chin to vertex, form nearly an isosceles triangle. The head from the arching of the roof and occiput toward the side of the pelvis which it presents, to being straighter than the posterior part of the pelvis which is concave, obstructs the descent, and through protracted uterine contraction the neck is more stretched, and the occiput approaches the back. The skull is flattened and the head has in this manner lost its height, its vertical diameter has decreased, and so finds room in the pelvis, and by further uterine contraction passes into the excavation, and the rotation is effected even if the forehead with the anterior fontanelle presents, and, as it were, on the point of being delivered.

In thirty-two cases I find, where measurements have been made in the Prague hospital, the straight diameter was larger than the diagonal in *two* cases. In twelve cases, equal to it. In thirteen, *shorter* by one-fourth inch. In three, *shorter* by one-half inch. In one, *shorter* by one inch—that is, the straight diameter, which usually measures one inch less than the diagonal, was lengthened one inch. This certainly is not as great a compression in face cases as some children undergo in occipital presentations, measuring, as I have seen, from six to eight inches in length, two to three inches beyond the usual measurement. The experience and views of Cazeaux, therefore, cannot be accepted that the child in face presentations can

only enter the pelvis as far as the length of the neck will admit, and as he denies that this condition of the chin entering with the back part of the head cannot be realized, and therefore he considers that rotation can only take place in the superior strait.

On this point of rotation I will cite a case or two :

CASE I.—*Face Presentation ; mento-posterior position ; delivery by Nature.*

Mrs. Kennedy (April, 1850), multipara, whom I had attended in a previous labor with a child weighing eleven pounds, was taken in labor about 9 A. M., with active pains. I saw her a short time afterward, and found, on examination, the os uteri amply dilated. Face presentation, chin posteriorly to the right sacro-iliac synchondrosis ; face dipping well down into the pelvis. Another pain brought the chin down on the perinæum in the oblique diameter ; a second pain, and it appeared as if every moment the face would pass externally with the chin posteriorly. The anterior fontanelle was felt at the opening of the vulva ; vertex much compressed. While waiting for the face to be born in this unusual position, the head almost instantly rotated round, and the chin pointed to the opposite side of the pelvis—the right acetabulum. Another pain, and the child was delivered with the chin anteriorly under the right pubic ramus. Child weighed ten pounds, and was alive.

CASE II.—*Face Presentation ; mento-posterior position ; delivery by natural powers. Dr. Hicks, Obstet. Trans.*

Mrs. W., aged nineteen, primipara ; rather a small and delicate person ; pelvis normal ; had been in labor twenty-four hours when I saw her. The os was well dilated, the membranes ruptured, and the face descended full into the cavity, when the uterus became quiescent. The chin was directed posteriorly toward the right side of the sacrum. As the pains had gone off for some time, *secale cornutum* was administered. The pains returned, and an endeavor was made to bring the chin more anteriorly, but without effect, yet it was observed to descend as rapidly as in mento-anterior positions. In a short time the forehead separated the vulva beneath the pubic arch, the chin and face gliding down nearly over the sacrum and inside of the perinæum until the nose was just clearing the anterior margin. While watching the effects of Nature, which appeared so little, more effort to accomplish delivery in the original direction, the chin rotated forward toward the tuberosity of the right ischium up into the arch of the pelvis, and the child was delivered with the chin anteriorly. The child was alive, and of average size.

Braun, in the *Monatschrift für Geburtshülfe*, February, 1861, "On a rare Mechanism in Face Presentation," describes

a case in which a mature child, presenting by the face with the chin on the perinæum, was delivered by the natural powers in this position. After the birth of the head the back of the child remained directed forward. The child was born dead.

Dr. Hodge has also referred to a case where the slightest pressure of the finger on the chin, though the head was low down in the pelvis, caused the chin to rotate anteriorly.

Smellie, in 1748, says: "I was called to a woman in labor, by a midwife, who told me she found the opening of the child's head below the share bones and with the forehead to that point. On examination, I plainly distinguished the face and the chin backward at the coccyx. In two pains more the face and forehead passed toward the posterior part in the form of a large tumor; the perinæum and fundament were greatly lengthened and the vertex and occiput slipped out from under the pubes; the face and forehead turned up from the perinæum, and the woman was delivered of a small child."

• In Braun's case the face was delivered posteriorly over the perinæum—that of Smellie from under the pubes, showing that even in this position the child may be born, and therefore delivery is not an *impossibility*. The vulva may be lengthened immensely—as I have seen in a case of double monster, where the whole back presented, and yet no rupture occurred—fully six and a half inches, as was verified by my friend Dr. Stone. The case of Braun shows that the opinion as laid down by Guillemot proved correct, who says the forehead may continue to descend and to engage under the arch of the pubes, until the anterior fontanelle appears at the vulva and reaches the border of the perinæum, then the process of extension commences.

The presentation by the face may be converted into one by the vertex. Velpeau remarks that the forehead engages behind the body of the symphysis pubis, while the chin gets below the sacro-vertebral angle. The whole head descends into the excavation beyond the anterior fontanelle from the anterior plane, and the face drags after it the front surface of the neck, and *even the upper part* of the chest. The occipito-mental diameter, which still represents very nearly the axis of the strait, now begins to perform a *see-saw* movement from above

downward and from behind forward. The chin penetrates farther and farther to the bottom of the excavation, though at the same time retained by the thorax, which cannot advance, forces the sagittal suture to slip down behind the pubes, and the forehead to gain the upper part of the inferior strait. The frontal protuberance soon finds a point of resistance on the perinæum, and the posterior fontanelle descends in turn, and ultimately appears at the summit of the arch as in occipito-anterior positions. Guillemot attested to the same view. Merriman has also asserted that he has seen two cases, where the chin was placed posteriorly, converted into occipito-anterior natural positions. Although Guillemot and Velpeau give the manner in which these cases may be changed into a different one, yet they do not cite any cases. There appears to be no valid reason, from the experiences adduced, independently of the theories advanced, why these should not exist. Should we, for this reason, on account of the rarity of face cases with the chin posteriorly, and the delivery of the child with the occiput anteriorly, as also with the chin posteriorly, and as well when occipito-posterior cases are converted into face cases, say that it is an absurdity and a piece of jugglery on the part of Nature? My experience tells me the contrary. The flexion of the face internally, by a spontaneous movement, and the delivery of the chin posteriorly on the perinæum, have and do suggest the delivery by artificial means, as much as the artificial means are suggested by the operation of rotation of the chin anteriorly, or when the chin is posteriorly.

Cazeaux admits the possibility of spontaneous cephalic version. Hodge deems it practicable, though he has not seen a case. He sees no reason why the head may not be made to rotate when it has descended into the pelvis between the superior and inferior straits. Meigs considers it impossible; Chailly, that flexion cannot be accomplished unless there should be a diminution in the diameters of the head or an increase in those of the pelvis. Burns remarks, it is easier for the forehead to turn down in these mento-posterior cases at the arch than for the chin to descend behind, and we find that it may move up along the bottom of the sacrum, and in the same proportion the forehead reaches backward and the vertex

comes down and passes under the arch. This will explain how face have sometimes been converted into natural presentations.

It is apparent (the opinion of Naegele and others to the contrary notwithstanding), that *spontaneous delivery* is not an impossibility in mento-sacral or mento-posterior cases, when the head is in the excavation, and that it is not more unusual than occipito-posterior cases are converted into face cases, and the chin delivered under the pubes. The practical lesson, therefore, we should learn from these cases is, how Nature tries to effect her object, and study the method of artificial delivery suited according to circumstances.

2. *Cephalic Version*.—I have attempted it several times, and although I have accomplished the flexion (I speak of primitive cases) while the face is in the superior strait, or still within the cervix, I have never yet seen a case where it retained its flexed position, for it would always return to the normal extended position.

3. *Podalic Version*.—I leave this division of my subject, for the few remarks I have to make on it, till the close of this paper.

4. *Artificial rotation*: in the first, the hand or fingers; second, the vectis, or, as I prefer, the right-angle blunt-hook for rotation or flexion; third, by the curved forceps by rotation, or by traction, or by both, at the same time. Should rotation not be effected by the finger or hand, or the vectis or right-angle blunt-hook, the application of the forceps is deemed absolutely necessary. I have said nothing respecting the vectis in attempting to flex the head in these unfavorable positions, because I consider it would require much time, and probably do severe injury to the soft structures of the mother; as the posterior part of the head or occiput is fully one inch above the pubic rami, to reach that point there would necessarily have to be great traction made, and pressure on the pelvic brim. The injury, I conceive, would be very considerable. If Nature has not fulfilled this part of her mission, I do not think it could be accomplished by the vectis.

Respecting the treatment of these cases by the long curved forceps, there is a very wide difference. As it is a very important part of the subject under consideration, a few mo-

ments' dwelling upon it may not be misapplied. There is not only a difference regarding the *kind* of forceps, but the direction of the traction for the delivery of the child, and the method of their application in the different positions anteriorly and posteriorly. This instrument is considered useful and necessary in two ways: first, as rotators; and, second, as tractors. As rotators they have been advised, but much apprehension has been experienced in twisting the child's neck too far. No doubt, in the hands of those who have not been accustomed to manipulations with these instruments, such fears might be entertained. The different views held as to when the application of the forceps is to be made are entirely at variance with each other, and with the first principles of the mechanism of parturition so ably laid down by some of these authorities themselves. Cazeaux applies them with the intention of flexing the head, and converting the face presentation into a vertex. To accomplish this, the blades are to be placed on the sides of the head, and, in operating, the handles should be depressed as far backward as possible, so as to act chiefly on the vertex until the occiput is brought down under the pubic arch. Chailly, without enlarging much upon the subject, says: "The instruments are to be applied transversely or diagonally, and finally two *successive applications* will become absolutely indispensable if we desire to bring in front the chin, which is quite posteriorly. The first application must be made as diagonally as possible, in order to bring the chin *transversely*; the second application is made in the same direction, conducting it under the pubes, and, increasing slightly the movement of rotation, the delivery is achieved." Chailly prefers this method in preference to disengaging the head in the direct mento-posterior positions, as he considers they only endanger the life of the child by the torsion of the neck. There is no doubt that the energetic efforts, which are often long continued, while they contuse and lacerate the parts of the mother on which the vertex and chin have rested for a considerable time, cause also a rupture of the perinæum more or less extensive. This rupture may extend to the rectum, and the accident may not only endanger the life of the mother, but expose her to infirmities which strike at her very moral existence.

While Chailly counsels the application of the long curved forceps in the diagonal position, Hodge says the forceps would be unwarrantable when the head (i. e., face) is oblique. If the head is transverse, if the anterior rotation cannot be effected in these mento-posterior positions of the face, version by the vertex should be attempted within the pelvis—the same opinion as Cazeaux. My old preceptor, Dr. Dewees, wrote thus: “Should the forceps be determined on, we must apply them over the ears, one blade behind the pubes, and the other before the sacrum; and they must be so applied that the concave edges must look toward the *hind*-head, which must be brought under the arch of the pubes and not the chin.” Von Helly says: “At the brim, the double-curved forceps must be applied in the transverse direction, one blade on the *forehead* and *crown*, the other on the face.”

From these views there could not be a greater variety of opinions, and a greater complexity respecting the management of face cases (the mento-posterior), by instrumental delivery. Scarcely two authorities agree. Dubois, Danyan, Cazeaux, and others, have failed as they say in rotating the face round, and Smellie himself was often unable to succeed. Blot has succeeded by rotating round the chin in three or four instances, and others have certainly done the same. It appears the most natural and feasible of all the methods which have been recommended.

Natural version in the pelvis is rare, and therefore the possibility is greater, if not less practicable than the former method. The last method of all is the flexing the head by the curved forceps, with traction downward, and delivering the child, if possible, before craniotomy is resorted to. By the diagrams, one of which is taken from Chailly, and another from Hodge, and one of my own showing, the position of the forceps as applied, and the direction of the traction necessary, Chailly differs entirely from Cazeaux respecting the flexion of the child, and considers it about impossible. He says: “I would proceed by a movement of elevation and direct traction, until the chin should be directed toward one of the sacro-sciatic ligaments, by inclining the forceps to the side. By a movement of depression, and repulsion posteriorly, I would disen-

gage, gradually, the occiput from the pubes, the chin pushing the perinæum backward and downward; then, with the aid of a slight direct traction, I would deliver the face, which remains fixed on the perinæum." Delivery, however, in this way, he says, is dangerous to both mother and child.

The plan suggested by Dr. Dewees would, inevitably, if successful, bring the top of the forehead and the crown of the head underneath the arch, and the chin to the sacrum and coccyx. The views of Dr. Dewees are opposed to the first principles of the application of the forceps in this class of cases. I must agree with Dr. Meigs that it must have been a *lapsus pennæ*, and not a precept that he would have adopted in practice. Madame Lachapelle, when the face of the child is in the excavation, prefers, instead of applying the forceps, to lift the head out of the cavity of the pelvis, and perform version. "If, by chance," she observes, "a circumstance which my experience causes me to regard as impossible, I should find the chin turned backward even toward the sacrum, and the infant was presumed to be living, I believe I should make every effort to reach the feet, even if the head were in the lower part of the excavation, and had passed the uterine orifice."

After all this had been accomplished, and the rotation either by the hand, vectis, or forceps, either by rotation or traction, are we prepared to say that *craniotomy* alone remains, as this is the *next* procedure recommended to be adopted as the *dernier ressort*? To obviate this unfortunate step, I now pass to the last division of the different points I have presented for consideration, which is the *division* of the perinæum laterally on the side to which the chin is directed.

Previous to entering on this point, I will report some cases showing that, with the chin posteriorly, by the aid of the forceps it is possible for the child to be born without resorting to craniotomy, independently of the measure I adopt.

CASE I.—Smellie. The woman had been long in labor; chin presenting to the lower part of the sacrum a little to the left side, and obliquely (this case is generally quoted as being a directly antero-posterior or mento-sacral position). The face was so low down as to protrude the soft parts of the woman in the form of a tumor; pains much weakened. I introduced the

forceps as in a former case, but, finding it impossible to raise the head, I was obliged to pull it along during the time of every pain—as it presented. The parts between the coccyx and os externum were gradually extended by the face and forehead of the child, and at last yielded so as to allow the vertex to come out from between the pubes.

CASE II.—Dr. Hicks, in the *Obstetrical Transactions*, etc., vol. vii., page 64, relates the following :

Mrs. —, of Rotherhithe, aged 40, multipara. Former labors quick and easy. Had been in labor eighteen hours when Dr. H. saw her. The forehead was anterior, rather lower than the chin, which was pointing directly to the sacrum ; head well down in the pelvis. As she was becoming wearied and exhausted, I applied the forceps and endeavored to improve the position of the head. This could not be accomplished. The instruments frequently slipped, and were as often reapplied. The forceps were removed, and slight rotation by the fingers adopted—the chin to the left side of the sacrum, and oblique. I then reapplied the forceps, and finding it useless to endeavor any further to bring the chin anteriorly, I drew down the chin over the sacrum and perinæum, and, without any very great trouble, succeeded in bringing it just outside the perinæum ; immediately after this, the upper part of the head glided underneath the pubes, and the delivery was quickly over. Child alive, and exactly resembled the head of the child in Smellie's plate.

CASE III.—Professor Braun, of Vienna, reports a like case. The delivery was effected by the forceps. The root of the nose first became visible ; the chin passed over the perinæum, then the calvarium and occiput came under the symphysis in completely transformed mechanism—child alive.

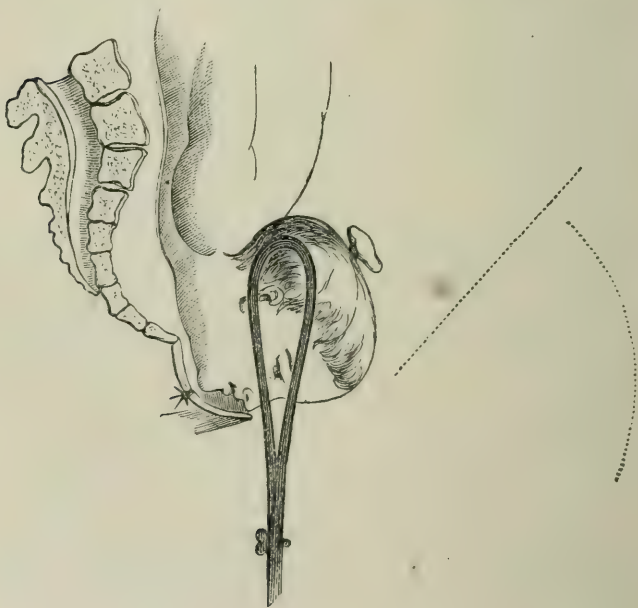
When, unfortunately, all these means should have failed, and when, as Von Helly remarks, auscultation declares that the child is alive, nothing but accidents threatening the mother can justify even the tentative application of the forceps ; and now as soon as the conviction is obtained that further force is dangerous to the mother, perforation is indicated, and especially demanded for the safety of the mother. The operation is easy, and the temptation, as Hodge remarks, is strong to

terminate the labor. But it is possible the child may be *living*, provided the labor has not long continued. Even under these circumstances, Metternauer, and Von Helly, and some others, agree in favor of perforation when the child may be still alive, rather than wait until the lives of both mother and child are imperilled. If these are the opinions entertained when the chin of the child is anteriorly, how much greater the difficulty when the chin is posteriorly and the efforts unavailing!

As a substitute for craniotomy, therefore, even before the patient has become exhausted, and obeying the imperative law which experience has demonstrated, that every hour after twenty-four hours' delay in the delivery of the mother under adverse symptoms imperils her welfare and tends to sacrifice her life and the life of her child, I consider it imperative to avoid *craniotomy* and endeavor to save the mother much earlier than is usually done. I propose, as I stated above, *division of the perinæum laterally*. The operation has, in some instances, been suggested on account of the large size of the child's head, and for a lengthened perinæum when laceration is inevitable. It is true the cases demanding this operation were not ordinary, and so are cases of face presentation of the nature under consideration. Michaelis recommended it, and Siebold approved it in vertex presentations with large heads and elongation of the perinæum. Ritgen took the same view, but never performed it either in hospital or private practice. Blundell advocated and practised only slight incisions, which were to be made laterally, and done during a pain. Paul Dubois divided the perinæum when necessary, directing the oblique incision. Chailly coincides, of course, with the suggestion of M. Dubois. Busch thinks that these incisions should be confined to cases of organic anomalies only. It is admitted that the cases are rare, which would demand such an operation, but the rarity of the especial cases under consideration shows the merit of the operation and claims the performance of it, not only for the sake of the child, but also for the mother. The objection of some, that the incision once started may soon be converted into a tear extending even to the anus, is futile. On the contrary, it is to avoid this deplorable issue of producing vesico- and recto-vaginal fistulæ, and the laceration of the

whole anus. The lateral incisions remove the dangers that are impending for the mother if the forceps be used, as Smellie has asserted in some of his cases. Should embryotomy be performed, the difficulties attending delivery and threatening the welfare of the mother, after the operation, would be much greater than from the simple perineal section. At the present time we know there is no difficulty in the perfect restoration of the parts as soon *after* delivery as may be convenient or practicable. The chances of success would be much greater than after the forced laceration of the anus and the complete division of the sphincter muscle. The fear that there will be too much laceration need not be entertained. The length of the division will, in some measure, correspond to the depth of the child's head in the excavation, which will be nearly the same as the length of the vertex which is against the pubes, from one and a half to two inches.

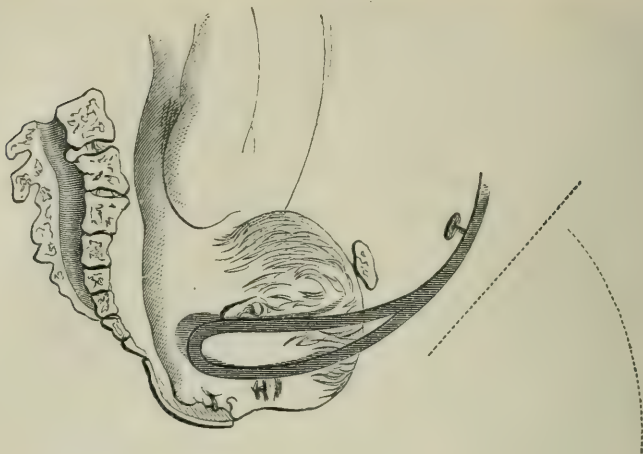
Should the natural powers of the uterus not accomplish the delivery, after the division, then I should apply the long



TAYLOR.

straight forceps—instead of the curved—extending them from the forehead of the child to the occiput along the straight diameter of the head. Traction should be made directly downward, to free the child from its position, as shown by the diagram. I have suggested the use of the straight forceps in preference to the curved, more especially in these mento-posterior positions, because they are to be used not only as tractors, but as rotators. They are more easily applied, and the direction of the traction is in consonance with the descent of the head, as we have seen when the child is delivered naturally. It would be almost an impossibility to deliver by the common forceps, as proposed by Chailly, Hodge, and others, in the direction of Carus's curve. In mento-anterior positions the long curved forceps can be applied without difficulty, and, as soon as the child's chin is delivered, the direction of the traction must be in that of the inferior strait.

Before drawing my remarks to a close, I wish to say a few words respecting podalic version, as generally recommended in these cases. Madame Lachapelle recommends it even when the child's head is in the cavity of the pelvis or low down; she prefers it to the forceps, if the head can be raised up and the feet reached. Hodge approves of the same procedure. Bedford gives his sanction to it when the head is in the superior strait. Chailly is of the same opinion as Madame Lachapelle; while Tyler Smith would ignore it as much as possible. Burns is quite emphatic that it ought never to be done if there is no urgent reason for it; it is dangerous to the mother, and peculiarly so to the child. I certainly would avoid version, if it be possible, as Nature is fully competent, in a large number of cases, to effect her own purposes, no matter what position may obtain. I further believe that there are some cases which may have been originally posterior positions, and which, not being seen by the physician until low down in the pelvis, have become anterior chin presentations. I could not, however, partake of the opinion of Burns respecting version, for there are instances where, even in the first stages of labor, in primitive face cases, version must be resorted to. Only lately I have been obliged to de-



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HODGE.

liver by turning in a face case with the chin anteriorly. The patient was a lady pregnant for the first time after being married seventeen years. I first saw her at 3 A. M. The labor was natural; os uteri dilated to the size of a shilling. The waters had been evacuated about two hours previously. Pains active, and appeared to be effective. There was no decided impediment until 10 o'clock. The face did not impinge as much on the os uteri as it should have done. At this time the pains were still active, but the patient becoming wearied and exhausted, and the pains were now beginning to flag. My friend Dr. Burral being near, was requested to be present, and administer the anæsthetic while I should effect version. There was no more prospect, at 11½ A. M., of the case being terminated naturally than at 10. The os uteri at this time was dilated to the size of a quarter-dollar. Version was resorted to, and the child delivered apparently dead. After a short time it was resuscitated, and did well. While turning, no pulsation could be felt in the cord.

I will now relate two cases where the mento-posterior position existed, and where delivery by the method I have suggested was resorted to:

CASE I.—*Mento-posterior position; delivery by division of the perinæum; child dead.*

December, 1848. A dispensary patient of my friend Dr. W. J. McNeven. Multipara; labor existed for twenty-eight hours. Head in the excavation and low down; right side of the face presenting obliquely. Anterior fontanelle perceptible to the touch, although small from compression; the nose a short distance above the fourchette. Perinæum considerably on the stretch. Pains feeble, and had been so for some time. Although the head was so unfavorably placed, still it appeared that the child might be delivered. The temptation was very great to divide the perinæum. Recollecting the remark of Dr. George Bush, in his work on Diseases of the Rectum, about dividing the perinæum in elongated perineal tedious labor, I was prompted to propose the suggestion to my friend Dr. McNeven, as presenting the best chances for the termination of the labor. The suggestion was accepted, and the perinæum incised laterally on the right side, avoiding in this manner the rectum. In a short time the child was delivered. The incision was not more than an inch or an inch and a quarter in length, quite sufficient to answer the purpose. The child was dead, as had been recognized previously.

Remarks.—When I proposed this method, I was not as

well informed, from reading and experience, as at the present time. In truth, I may say I knew but very little respecting these rare cases and their special management. It was so perfectly suggestive and successful, that I have ever acted on that principle in this kind of cases. Every thing in regard to the case tended to the accomplishment of this course of treatment.

In 1853, a second case came under my notice, in a patient in East Seventeenth Street, who was attended by Dr. Sawyer, of the house-staff, Bellevue Hospital, and a student. In this case the same condition of labor presented, but the labor did not terminate as favorably after the division of the perinæum, by the natural powers of the uterus. The long straight forceps were applied, and the child delivered. The infant in this case also was dead when I saw it.

The cause of the death of the child in these unfavorable cases lies in the compression which the skull and brain undergo, and in the obstruction to the circulation by the lessening of the calibre of the vessels of the neck, from the great stretching of the neck. *Post-mortem* investigations have discovered no more congestion of the brain than in ordinary cranial cases. No injury of the spine has been found to have occurred.

I will not tax your patience, Mr. President, and gentlemen of the Association, much longer. Sufficient has been adduced to illustrate not only the very great difference of opinions respecting the management of this class of cases, differences in regard to the position of the child—the spontaneous delivery of the same—the method of the application of the forceps, and delivery by the same—the mechanism of the child's head in the pelvis and also by version, and finally by craniotomy. The experience of the last twenty-five or thirty years seems to negative the opinions expressed by the authorities I have quoted, and shows that the views and positive opinions of Naegele (the father) are not correct—that Nature does sometimes surrender herself to the spontaneous delivery of the child, accompanied with blessings of the mother, and the gratitude and admiration of the mechanism of Nature by the accoucheur. I will conclude my remarks by the following propositions :

1. That mento-posterior positions of the face are the most frequent; that spontaneous delivery may be accomplished as easily, readily, and safely, as in mento-anterior cases; that rotation of the chin forward to the pubes can occur even though the face has descended into the excavation, and sometimes just as the child appears to be born.

2. That these cases may be delivered spontaneously—by cephalic version in the pelvis, and by the passing also of the child's face over the perinæum, the chin appearing first. In other cases, the occiput may emerge from under the pubes *first*.

3. That if rotation of the chin anteriorly cannot be accomplished naturally, nor by artificial resources, I propose first the *division of the perinæum laterally*, on whichever side the chin presents, and before craniotomy is performed.

4. That should the natural powers of the uterus not effect delivery even after division of the perinæum, the application of the long *straight* forceps should be resorted to in preference to the curved, and the direction of the traction should be made directly downward and backward.

Clinical Records from Private Practice.

I.—*A Case of Chronic Pneumonia treated by Inhalations of Oxygen.* By GEORGE H. BUTLER, M. D., New York.

John R., blacksmith, aged thirty-two, married. First seen June 21, 1869. Had then been sick eight days. Had had medical attendance part of the time, but for the last two days had been without medical aid. There was evident pleuro-pneumonia of the left lung; flatness on percussion over a large extent of the lung; complete absence of vesicular respiration over the same extent; breathing rapid and difficult—about forty respirations per minute; cough considerable, and causing severe pain; rusty sputa; fever, and rapid pulse.

The patient made a slow and imperfect recovery. On the 27th of June he was able to sit up, though very weak. He was much emaciated, and troubled a good deal with the cough. Had night-sweats and hectic, and was much dejected in spirits.

Did not see the patient again till July 27th. He seemed to have made little progress, in the month which had elapsed, since last note. The cough was changed now from that of hepatization to the short, dry cough of former times. He thought there was a little more expectoration now than previous to the pneumonia. The hectic was less in degree. He was fatigued on the slightest exertion, and, though able to go out, could scarcely walk three blocks at one time.

Percussion showed dulness over quite a large portion of the left lung. Considerable dyspnœa existed. There were signs of adhesion; pain on taking a long breath, and inability to lie on the sound side. The emaciation was still greater than before; the appetite very bad, the patient scarcely eating any thing.

July 27th.—Began inhaling oxygen and continued to take it daily until August 4th. The quantity administered was about four gallons each day, occupying about two minutes at each inhalation. The gas was prepared with Dr. Andrew H. Smith's portable apparatus, which was loaned for the purpose.

The patient began to improve after the first few days of the treatment, and on the 2d of August felt so much better that he attempted to resume work, and made one pound of horse-nails, ten pounds being the standard day's work.¹

He took no gas from August 4th to August 7th. August 6th he suffered very much from pain in the side and dyspnœa, not being able to sleep through the night. Obtained some relief from sinapisms.

August 7th he recommenced the inhalations, and continued them daily until the 18th. He improved a good deal during this time; gained strength and flesh, and was able to make six pounds of nails, more than half a regular day's work.

During this time (viz., from the 7th to the 18th) the same quantity of gas was administered, but, at the suggestion of Dr. Smith, each inhalation was extended over a much longer time by lessening the orifice of the tube, and allowing the patient to inhale a greater proportion of atmospheric air.

¹ The even character of this work renders his capacity to perform it an available test of his condition, which may be accurately estimated by the number of pounds of nails made each day. His necessities compelled him to task his strength to the utmost.

The note of the condition of the patient on the 18th was as follows: Breathing capacity increased; respiration nearly normal; the consolidation less in extent; cough much less troublesome, and the general health decidedly improved.

The oxygen was not given again until August 23d. During the time he was without the gas he missed its effects very much, and experienced more fatigue while making four pounds of nails than while making six pounds and taking the gas.

August 23d, he again returned to the inhalations, and on the 27th made seven pounds of nails.

August 28th was feeling still better.

August 30th.—Better than at any time since he was taken sick.

August 31st.—Still better. Made eight pounds of nails. Has had no pain nor dyspnœa for some days.

September 4th.—Took the gas for the last time. Is now able to make his full ten pounds of nails per day. Expresses himself as feeling quite well. The pain, dyspnœa, night-sweats, and hectic, have entirely disappeared, and he coughs scarcely at all.

Besides the symptoms above enumerated, there were in this case unmistakable signs of pulmonary tubercle.

What is very remarkable in this case is, the great increase of weight, strength, and appetite, from nearly the commencement of the treatment.

II.—*Tetanus Nascentium treated with Alcoholic Extract of Calabar-Bean.* Reported by C. C. SHERARD, M. D., Mobile, Alabama.

The patient, a large, strong, and healthy-looking female child, weighing ten pounds and well formed, was born September 8, 1869, at 2 P. M. The umbilical cord was cut about two inches from the abdominal wall and tied with surgeon's coarse silk, and well dressed with old linen, softened with fresh olive-oil; a soft piece of linen was placed under the cord to absorb all secretions from it. On the third day the cord had nearly sloughed off, and there was no inflammation of the umbilicus; the linen was removed, and fresh linen replaced to absorb all

discharges, and to protect the abdomen. The child was well attended, and kept perfectly clean.

September 12th, at 2 A. M., the baby nursed well, and about 4 A. M. began to fret and refused to nurse, and continued to fret more or less until 6 A. M., when it had a spasm. I was sent for immediately, and arrived a little before 7 A. M., and at once diagnosed tetanus nascentium. In view of the uncertainty of the usual remedies in such cases, I determined to try the ordeal bean of Calabar, especially as Mr. Peter Z. Coltzon, an apothecary of our city, on Dauphin Street, had informed me a few days previously that he had carefully prepared an alcoholic extract of the bean which he thought was reliable. When I arrived at the house, the patient was still suffering from a convulsion which was about passing off. The jaws were stiff, with the mouth sufficiently open to admit the finger, and full of froth; the masseter muscles were very rigid; head drawn back, and forearms flexed, with the thumbs drawn across the palms of the hands, and firmly clinched by the fingers. The respiration was very rapid; the pulse it was impossible to count with any accuracy. During the paroxysms the eyelids and lips were forcibly contracted, but as soon as the convulsion wore off the eyes were opened and the pupils dilated.

At 7 A. M. I gave the first dose of the extract, $\frac{1}{12}$ of a grain, and repeated it every hour until 9 A. M., the spasms coming on more often and more severe. I then gave it every thirty minutes until 11 A. M., and afterward every twenty minutes up to 1 P. M. The spasms being longer and more severe, I increased the dose to $\frac{1}{8}$ of a grain, and gave it every thirty minutes, without any abatement of the spasms or any relaxation of the muscles of the jaws or hands. The bowels acted twice, and urine was freely passed; no contraction of the pupils or any change for the better up to 5 P. M. Respiration very quick and somewhat more feeble.

Subsequently I administered $\frac{1}{8}$ of a grain of the extract every twenty minutes; the infant was now bathed with a profuse perspiration, and the spasms were increasing in severity, and deglutition becoming more difficult. The medicine was ordered to be given every ten minutes, but the child was almost unable to swallow, and but little if any of the medicine

passed into the stomach. The pupils still remained dilated; at about 9 P. M. the patient died in a severe convulsion, having lived thirteen hours after the appearance of the first symptoms.

I watched the pupils of the eyes very closely, so as to observe the effects of the medicine. I could not see that it had any effect whatever on the patient, although it took as much as four grains of the extract before it died. Some two hours before its death, however, its features became pinched around the nose, and it began to show great emaciation, with blueness of the face, lips, and extremities. There was no *post-mortem* examination made of the body.

Though I could see no benefit from the use of the Calabar bean in this case, I shall venture, should another proper case present itself, to still further test the remedy.

Drs. Monti¹ and Eben Watson's reported success should be sufficient to encourage us in giving the medicine a fair trial. Dr. Monti says he cured three out of four cases, one of traumatic origin; and Dr. Watson reports two cases of traumatic tetanus cured by its use. Dr. Monti used it both by subcutaneous injection and by the stomach; his doses varied from $\frac{1}{30}$ of a grain to $\frac{1}{8}$ of a grain for an infant a few days old; and in a boy four years old he gave by subcutaneous injection at one dose half a grain. Dr. Watson says its effects are very short-lived, and the dose must be repeated frequently to keep up its effects.

III.—*A Case of Empyema in a Child, with fatal Result.* Reported by D. F. UNGER, M. D., Assistant-Physician, Infants' Hospital, Randall's Island, New York.

A girl, aged three years and nine months, was admitted to the Foundling Hospital, Randall's Island, August 28, 1869. No history on which any reliance could be placed was obtained, though it is clearly evident that the disease to which the patient finally succumbed must have existed for some time, and probably took its origin in an acute inflammation.

She was considerably emaciated, weak, and suffering from hectic fever. A continuous and annoying cough was a promi-

¹ See page 183, present number JOURNAL, for the report of Dr. Monti's cases.

nent symptom. There were obliteration of the right intercostal spaces, and evident bulging of this side. Mensuration gave a difference of one inch in favor of the semicircumference of this side. On percussion, this side of the chest, posteriorly, was perfectly flat; the respiratory murmur was absent except at the apex in front, where there was also some resonance.

On the right side the resonance and respiration were normal, excepting the presence of a few mucous and sibilant râles. The pulse was 144 per minute; respiration 50; the temperature in the axilla 99°. Her appetite and digestion were good and bowels regular. She lay almost always on the affected side. The diagnosis was effusion into the pleural cavity; although at the very first the opinion was entertained, by one or two who saw the patient, that it was a case of chronic pneumonia. This opinion was speedily abandoned, and, as the probabilities were largely in favor of the fluid being purulent, paracentesis thoracis was advised and urged by all who saw her; but this treatment was positively and persistently objected to by the mother and was not carried out.

The fluid continued to increase, and in a few weeks her condition was very poor. The cough was so annoying as to prevent the proper amount of sleep, and the respiration became much embarrassed. The pressure of the fluid was gradually displacing the liver downward, and it could be felt and seen in the right lumbar region below a line drawn on a level with the umbilicus. At this time, September 17th, her appetite continued good, and she was taking nourishing diet and stimulants.

Sept. 26th.—From this time her condition grew more unfavorable, and she continued to sink slowly until the date of her death, October 4th.

At the *post-mortem* examination, over a pint (by measure) of highly-purulent fluid was found in the right pleural cavity. A thick layer of pus covered both the pulmonary and costal pleuræ from the base to the apex, but this was easily scraped off. The whole lung was carnified and compressed to one-third its undilated size. No tubercles were found in it. The left lung was slightly congested, and presented some patches

of collapse on its posterior border. Bronchial glands normal. Bronchi thickened and congested.

Nothing abnormal was found in any other organ except downward displacement and congestion of the liver. The cranial cavity contained perhaps a little more serum than is usually found in *post-mortem* examinations.

The termination of this case certainly does not furnish any argument for the non-performance of thoracocentesis, nor for delay in the hopes of the rare result of perforation by necessity. The harmlessness and advantages of paracentesis thoracis, in children, are now so well proven that it seems unwarrantable to neglect the chances of safety offered by it. And in this case, the absence of disease in any other part of the body, the good appetite, and unimpaired digestion, certainly lead us to believe that an early resort to the operation—as was strenuously advised—would have saved life, or at all events would have prolonged and rendered it less painful and annoying.

Bibliographical and Literary Notes.

The Physicians of the Time of Molière; their Manners, Institutions, Doctrines, etc. By T. EDWARDS CLARK, M. D. (Continued from page 623, vol. ix.)

IN the time of Guy Patin, as in all epochs of progress, there were impatient adventurers, turbulent and revolutionary; and, as in medicine, every new idea, scientific or not, is susceptible of being presented in flaming colors, and as the surest way of making money is to advertise that one has a remedy for all ills, it was not always easy, even for the most intelligent, to distinguish the good from the bad. There was a liability sometimes of confounding the true discoverers in science with the charlatans.

We see, then, the faculty placed between two contrary systems: on the one side a doctrine depending not only on tradition, which is much, but on experience, and on principles which are far from being without application, because they are eternal; and on the other side, aspirations more or less

vague, real discoveries mixed with much of alloy, and half truths spoiled by evident errors. A difficult position, and, if the obstinacy of the faculty was often ridiculous, we should not forget to notice the frequent injustice and bad faith of those attacking it. As an institution it was guardian of the honor of the corps; as a learned body it believed itself to be guardian of the "*bonne doctrine*." These two things made it united. Add to these the human weakness belonging to each member of the association, and we arrive easily at the conclusion that privilege and precept are inseparable; to move a stone of the edifice is to compromise the whole building; and in a time when Louis XIV. said, as a very simple thing, "I am the state," the faculty also could declaim, "I am science," and certainly with much reason. It is easy for us to laugh at this, but it would be difficult to prove that at that time or place we would have done otherwise.

In justice to Guy Patin, it must be further said that, though a friend of tradition, he was a very decided adversary of routine; and nothing so much excited his ire as the insupportable trash of complicated and pretentious drugs derived from the Arabs during the middle ages. He would cut off all these superfluities, and he had for his maxim, "*Pauca, sed selecta et probata remedia*." It is amusing that sometimes his hatred of pedantry and of the complicated mistook the direction, and he believed Harvey to be one of those Arabian cooks that he despised so strongly. Ruled by that good practical sense which is the only superiority of talent over genius, he never pronounced definitely on the circulation of the blood, nor on the question of the lymphatic vessels. He waited for these discoveries to furnish their proofs in serving the healing art.

This turn of mind, this love for the natural and simple in all things, joined to an immense fondness for study, influenced his opinions, his tastes in philosophy, in literature, in politics, and also his social relations and his friendships. He has been taken sometimes for a scholastic, but nothing is more false; it is his love of erudition which has caused this wrong impression. With him Aristotle was singularly tempered by Epicurus; he cared very little for the rubbish of the school and metaphysical questions. All that had no direct application

he did not trouble himself about. He must have a convenient and common-sense philosophy which penetrates not too far into the depths of causes, and does not expose itself to grand failures.

In Plato he saw nothing more than a dreamer. He understood nothing of Descartes, and could not conceive how a man could take the trouble to batter down the speculations of the school, only to put up others. His mistakes in this respect are laughable. He thought he had discovered in this innovator an intention of making his new principles prevail in medicine, and this displeased him. "What profit can this pretended new philosophy of Descartes be?" said he, and he proclaimed to the circulators and the givers of antimony that now was their chance: "M. Plempius, professor of medicine in Holland, is dead. Adieu to the true doctrine in that country: Descartes and the ignorant chemists try to spoil all, both in philosophy and in medicine." Guy Patin, when he wrote these lines, was probably ignorant that this Plempius, for whom he has so great an admiration, and who had been in fact one of the most fierce opponents of circulation, had finished by being converted. After more than twelve years of controversy, he perceived, one day, that he was wrong, and made public *amende honorable*—rare instance of scientific probity, which it is good to notice in passing.

It seems that this defiance of the position of Descartes occasionally led Guy Patin to admire Bacon, whom he had read, but did not fully understand. He speaks of him at different times, but remarks simply that "he is a learned man who has written much, and has done nothing but good." Truly a judgment which does not compromise him.

He considered Gassendi the true rival of Descartes. This prominent philosopher had the double merit of holding views like his own, and also of being his client. He exhausted in his honor all the formulæ of admiration. "He is an abstract of moral virtue, and of all the beautiful sciences." He believed himself responsible to the public for the health of one so precious. After his death he mourns him most affectionately, and, mingled with his tender words, there is a little of that irony which never forsook him entirely: "I had rather

ten cardinals of Rome were dead ; these would not be such a loss to the public ! ”

Bayle, who had his reasons, probably, has said that his creed did not contain many articles, and his editor, M. Réveillé-Parise, inferred, from some pleasantries on the confession and on the celibacy of the priesthood, that he had embraced, at least secretly, Protestantism. There exist in his letters several decided proofs to the contrary. The truth is, that he had from time to time terrible whims, and that in his sarcastic sallies he went as near to the sanctuary as possible without entering it, and, notwithstanding this, he was not a freethinker, but simply a free-talker. He was not a theologian, nor did he wish to be, but he held to a certain independent philosophy, which he thought necessary for his profession ; and, in accepting, as a whole, that which he considered an article of faith, he did not trouble himself about the details.

Without being engaged in the Jansenist party, he favored it with all the bitter hatred which he bore against the Jesuits. “ I would,” says he, “ that the whole tribe, every individual, monk and petty monk, were in the sea. What a fine thing it would be ! What a happy riddance of contemptible stuff ! How happy Europe would be in that day ! ”

Purgatory he spoke of in terms not very Catholic, calling it an invention whereby the cardinals may set their pots a-boiling.

There was in Guy Patin a leaven of irreverence which cannot be denied, nor can he, in this respect, be taken as a representative of his associates. All these traits strongly accented are personal to him. Notwithstanding this gayety of style, which we do not defend, he was not irreligious ; and impiety was to him something horrible. He could not endure “ these enraged courtiers and atheists,” nor the swaggering incredulity which was then current among a certain class. He held to the liberty of conscience, and did not wish that it should degenerate into liberty to insult holy things. He believed firmly in Providence, but was not willing to perceive its workings in each step, and according to the fancy of every one. An assassin is arrested and hung ; all the world see it in the finger

of God; to him it appeared better that God had saved the life of the murdered victim.

He is surprised and confounded at the march of events in the world, and is indignant at the triumph of the wicked. He writes with a dolorous eloquence, "I lose my footing in the abysses of Providence!" Nevertheless, he is resigned, and awaits with confidence better times.

In regard to the future life, he remarks: "One has said, I would not die, but I would not mind being dead. Another has said that there is something besides being dead—that death does not finish all; and in all this I am of the opinion of our *curé*." He hoped in another world to meet again with his good friends, with those with whom he held conversation daily, and who are called Homer, Aristotle, Hippocrates, Cicero, Virgil, Pliny, and Juvenal. These were the familiar circle of his readings. He never quitted antiquity but to return to it. He relished it, he was pervaded by it, he cited it at every moment, and he spoke Latin when he wished to be at his ease. He valued the modern writers only as they approached the ancient. Hence his literary affections were for those grand scholars of the sixteenth century who have in a measure reconstructed antiquity by their knowledge and patience. He noted as one of the most enjoyable days of his life, that one on which he received a letter from M. Saumaise. He spoke of Casaubon and Scaliger as incomparable men. He was intimately acquainted with the works of all those *savants* in *us* who have enriched Holland with their folios, viz., Grotius, Heinsius, Gronovius, Schoockius. As to the French, he had a taste for only those authors who to us are the representatives of the Gallic spirit, but who, in their time, gathered strength nevertheless from the Latin: Rabelais, Montaigne, and especially Charron, whose *Sagesse* appeared to him a work divine.

In politics Guy Patin was from his very nature a member of the opposition; he believed that corruption and cheating are inseparable from power; he made it a duty to shun men in high places; he considered the court a union of bandits, and the grand *seigneurs* as so many cannibals.

This is the disposition which he brought to the judging of

the events of his period; nevertheless he was not revolutionary, and, if he talked resistance, it was only in the name of the good old times. As long as the power of Richelieu lasted, he held himself somewhat in check. He was far from liking him, notwithstanding certain eulogies which he from time to time, in his writings, passed on him. The terrible cardinal knew how to make himself so much respected that he dared not speak of him even with closed doors. After the cardinal's death, he speaks of him as a "good beast, a frank tyrant." This hatred increased with years, and in celebrating his anniversary in 1661, he says: "To-morrow it will be eighteen years since the devil carried off Cardinal Richelieu."

Mazarin succeeded Richelieu, but Guy Patin from instinct hated him also—certainly not from experience; and, as there was more freedom of speech, he gave vent to his wrath. He was opposed to taxation of all kinds, and when a tax was laid on wine he remarked, "Happily the Seine is left to us—the time will come when they will put a tax on the poor beggars who warm themselves in the sun."

Guy Patin was in reality a sharer in the public troubles, for his country-seat had been pillaged by a party of royal troops; but, to account for his acts, there was no need to plead these personal reasons. If he was blind and unjust in his rancor, we cannot refuse to him great depth of honesty and a lively feeling for the public miseries. Moreover, it is to be observed that even in his most vehement sallies of opposition, he never went so far as to form or utter vows or threats against the government. His monarchical sense was not less developed than his liberal tendencies; and he never spoke of the memory of Henry IV. without respect mingled with tenderness.

The views of Guy Patin have this advantage, that they are those of a private man, content with his *rôle*, and not wishing to leave it. It is, in fact, in the midst of his intimate relations that he appears to us with all his charm, and in his true light. Arrived at maturity, he has an honorable fortune which allows him some leisure. We see him, as a man possessed of varied resources, instructive and agreeable in conversation, and there are honest people who are not ashamed to pretend indisposi-

tion, to have the pleasure of being cured by him. He hated *la philargyrie*, and could, when necessary, content himself with little, but did not wish to be taken for a dupe. "When I was young," he writes, "I would blush when any one offered me money; to-day I redden when one does not offer it."

The proverb, "Tell me your associates and I will tell you who you are," applies well to Guy Patin. His first and most intimate friends among his medical *confrères* were Bertin, Spon, and Falconnet—men of mind and knowledge, to whom he could say any thing and open his heart freely. They had the same tastes, habits of mind, and an almost perfect community of ideas. He frequently visited the president, De Thou, and had for neighbors and friends M. Miron, president of the inquests, and M. Charpentier, counsellor to Parliament.

For the present we will leave Guy Patin, but will have more than one occasion to return to him, mingling as an actor or witness in the events which remain to be related. Before changing the scene, to follow, among the nobility and the court, the worldly doctors that ambition, the love of adventure, and the desire of gain, have drawn to that side, it is well to tarry a moment with a personage, remarkable for his conciliatory character and friendly relations with both parties.

Gabriel Naudé, though he had never taken rank in the faculty of Paris, as he would not practise, had been as it were adopted by it, and more than once was allowed to speak in its deliberations. Drawn by his tastes to works of erudition and of bibliography which have rendered his name celebrated, he coasted alongside of rather than travelled with the profession; but he held it none the less an honor to be a physician, and this is the title which he was most pleased to bear. He had received the doctoral cap from the University of Padua, and enjoyed a pension at the court as physician to King Louis XIII. After a sojourn of ten years in Italy as librarian to Cardinal Bagni, then to Cardinal Antoine Barberin, he was called to France by Richelieu. The following year Mazarin, being prime minister, charged him with the composition of that library which bears his name. He spent several years travelling for this purpose, and succeeded in collecting forty-

five thousand volumes. Mazarin removed, and this admirable library put up at auction by the order of Parliament, he accepted propositions which were offered him by Queen Christina of Sweden. But, not being able to accommodate himself to the severity of the climate, he returned to France, where he died. This is his life in a few words.

Constantly attached to the person of some one high in authority, he appears to have lost in this familiarity nothing of that vivacity of spirit and language which is natural to him. It is true, as Guy Patin (his friend and confidant) said, the title of librarian to Mazarin was but his exterior quality; it is not less curious to observe this intimate union between the man of the cardinal and the most determined Fronde that ever was. We are forced to conclude that at the bottom neither the one nor the other cared enough about politics to make it the principal affair of his life, to the sacrifice of the pleasures of science, letters, and friendship. In fact, there are many reasons why these two men should come together and seek each other's company. That which rules them is a positive need of uttering certain enormities against received or accepted things. Boldness of language is common to them both, but it is Naudé who gives the tone. In more than one rencontre, it is true, he has protested very explicitly his orthodoxy, but we must distrust those oratorical flourishes which only serve as passports to his true thoughts. In this respect he is worth less than his friend Patin; notwithstanding he loved sometimes to emancipate himself, he has his principles, Naudé has none. He is a skeptic, made sharp and undeceived by the follies of the age (which is not an evil), and all philosophy is to him little else than a system of negations. He has had for friend and professor a certain Bélarget, who recognized no other authority than Homer, Aristotle, and Cicero, and admitted neither miracle nor prophecy, and said that the most foolish books in the world were "Genesis" and the "Life of the Saints." The disciple is worthy of his master. "I think," says Guy Patin, "that he was of the religion of his profit and his fortune." It is difficult to accept this judgment for a eulogy.

Nevertheless, as every one has his good points, we must be

just enough to Naudé to admit that he has a sincere horror of all superstitions, and that he attacks them always with true eloquence. He began with a work entitled "Instructions to France on the Truth of the History of the Brothers of the Red Cross." We know that about that time this famous association, born of the most mystical and nebular reveries of Germany, tried to introduce itself into France, promising the transmutation of the metals, the healing of all diseases, the universal reformation of humanity, and other wonders which are the usual wares of theosophists of all times. Unfortunately for the success of their enterprise, the new lights thought it necessary to encircle themselves with so great a mystery, and took so much care to render themselves invisible, even at the time when they spread their handbills throughout Paris, that one could seriously be in doubt of the reality of their existence, and believe that there was some mystification. Naudé, keenly touched by the medical pretensions of these charlatans, thought that he could easily expose the matter; and, taking it for granted that the new sect existed, contributed his share to put the French public, somewhat inclined to such chimeras, on their guard against these fantastic imaginations. His book, full of erudition and good sense, is still a useful document to consult in studying the history of the aberrations of the human mind.

Later he had the idea of extending this study to all the histories of magic before his time, and published an "Apology for all the Distinguished Personages who have been falsely suspected of Magic"—a strange work in which he successively takes up the defence of Zoroaster, Orpheus, Pythagoras, Alexander, Namu, Virgil, Raymond Lully, Cardan, Pope Sylvester II., and many other illustrious men, whose pretended marvellous acts he reduces to the proportions of natural phenomena. He shows, with great reason, and often with a rare felicity of expression, that that which makes the prestige of many a great man who imposes on the crowd, is the ignorance of the community.

It is unfortunate that his power of execution is not always equal to that which he undertakes, and that he has not the method, the simplicity, nor even the necessary power of criticism for a work of the kind. His knowledge deceives rather than serves him.

He has another fault much more grave—a practical skepticism, an absence of moral sense, contradicted it is true by his private life, but found in his works, which in this respect are not worthy of the man. His title of doctor is a pretext for him to rail at all things, and he has this weakness of certain people who, in order to appear to know more than others about the human machine, respect nothing, not even the sentiment of justice. He has a word which for him covers all, and explains all, *la politique*. By it the greatest impositions of men of state of all time, and their juggleries, by which they have duped the multitude for their profit, may be not only explained but justified.

Naudé believed, as did Guy Patin, that politics is a school of brigandage and duplicity; but, while the latter concluded that an honest man ought to have nothing to do with it, and so shun the court as a bad place, the former declared that it is good that it is so. He affected an admiration without bounds for Machiavel, whose grand qualities he lacked; and it is probably through a desire to imitate him that he dedicated to him his book, "Science of Princes, or Political Considerations on *les coups d'état*." The doctrine is very simple—all the *coups d'états* are good provided they succeed, and power is always right. Naudé approved all, even *la Saint Barthélemy*, and defended warmly poor Charles IX., so basely abandoned by all historians.

It was for the purpose of applying his theories to contemporary events that he published during the Fronde, and in response to the partisans of Mazarin, a sort of ministerial pamphlet, with this title: "Marcusat [anagram of R. Camusat], or Judgment on all which has been printed against Cardinal Mazarin, from the 16th of January to the Declaration of the 1st April, 1649." The conclusion to which he comes is always, that all is well coming from power, and that the *rôle* of the public ought to be to limit itself to admiration.

As publicist (for he has the appearance of one), he is very severe in regard to the productions of the press: "It makes the people too knowing, not only in their own affairs but in those of their neighbors." To him it did not seem proper that the common people should acquire so much of news: "Of

what use is it to inform them punctually of the revolts of Naples, the seditions in Turkey?" etc.

Such is the liberalism of Gabriel Naudé: though arrogating to himself the right to discuss and deny every thing, he would take it away from others, because he thought rightly, that, if there was liberal discussion, all would be soon called in question. That which absolves him is that he held to his theory, never having dipped into any of the intrigues which he approves so cleverly—and lived for science, to which, as philologist, he rendered incomparable service. He died poor, after having had many opportunities for making a fortune.

Arnauld d'Andilly, a nobleman not blessed with too much nobleness of soul, who wrote in 1667 his memoirs for the instruction of his son, and occasionally loved to philosophize on the events of his life, somewhere says: "I think that I ought here to remark that it is wise to make friends among all sorts and conditions of life." He recounts that, once while travelling and finding it difficult to secure lodgings, all the houses being taken up, a subaltern officer, to whom he had once done a kindness, procured accommodations for him and his people; and that on another occasion, being taken severely sick, he was glad to avail himself of the attention of a physician that he had treated with respect, and who, in return, watched with him day and night, and brought him out of his sickness.

Such was the position of doctors in the seventeenth century among the nobility. A grand seigneur who asked to be cured by a physician believed that he did the latter much honor. Things have changed since, and already, for example, in the eighteenth century, medicine was so much in favor, that it became a matter of fashion and of infatuation. The arts having yielded the precedency to the positive and utilitarian spirit, it was the mode to have some one with whom one could discuss physiology or mechanics, and the noble ladies had their mathematicians and their doctors, as their grandmothers had had their poets and wits. At the court of Louis XIV. it was, it is true, important to have one's family physician, but familiarity only gilded the chains and flavored always a little of servitude. In the eyes of the Duke de Saint-Simon, a physician, however illustrious, was nothing else but a man "dressed in

his trade." One would say *Daquin* or *Guernaut* curtly, and the liberties that were permitted to men of letters, or to the abbots of the court, were not extended to such as these.

All this is very plain in the writings of Madame de Sévigné. The good marquise liked medicine, though she had not much faith in the doctors; and very few persons have consulted them so often, and followed their advice so little. It was her pleasure to listen to discourses on her health, her spleen, her bile, her spirits, and her humors; although she did not pride herself on her knowledge, yet she loved nevertheless to know the reason for things, and why the treatment was in this wise and not in that. She made a collection of receipts, which she used for herself and for her friends; and very happy was she to do this unbeknown to the doctors. She had no greater pleasure than to get four or five of them together and provoke or vex them by questions, and, if possible, bring about a quarrel among them. Then she triumphed—laughed at their embarrassment, and had a good reason for not following their advice. But if, at a venture, she did so, she was very eager to call them back and convince them that she was not cured. She would cry out: "Ah, how I admire the doctors! what quackery is like their art!" But why did she consult them? It is difficult to tell, and probably she did not know herself. She never passed by a village without taking advice "of the first ignoramus of the place," as she loved to call them. Happily these little sports were not dangerous, and one does not complain much of them. Even the physicians did not detest this class of invalids who asked their advice only to laugh at it. They understood them and accordingly made them pay dearly. This was an allowable vengeance.

Madame de Sévigné's medical antipathies were directed chiefly against the princes of the science, the famous names. She allowed nothing to pass; and their least errors, real or supposed, were in her eyes unpardonable blunders. If, on the contrary, the question was in regard to some quack who had trespassed on the privileges of the faculty, she showed marvellous credulity and indulgence. She spoke with admiration of the *Capucins of the Louvre*, who, besides that which they seemed to be, the physicians of souls, pretended to be physi-

cians of the body, and were warmly patronized by her friend the Duke de Chaulnes. She called them the *Æsculapian* fathers. She had perfect faith in the incomparable cures of Madame de Charrost—in the domestic remedies of Madame Fouquet, and in the divine prophecies of Chevalier Talbot in regard to health.

It was not science especially, that she demanded in a doctor. In this respect she was more of a woman than one would have thought. Listen to her talk about Seigneur Amonio, a young and elegant Italian disciple of Hippocrates, who had come to establish himself at Chellas: "My dear, he is a man of twenty-eight years, whose countenance is the most beautiful and most charming that I have ever seen; he has the eyes of Madame Mazarin, and perfect teeth: the rest of the face is as one would imagine Rinaldo to look; with large black ringlets which make his head the most pleasing in the world. . . . Voilà my genteel doctor! . . . He is dressed as a prince, and a good fellow in every respect."

We have now her secret; that which she especially looked for in a doctor was that he should be a "fine fellow!" She found such a one at the baths. The doctor at the baths in the seventeenth century had neither the pedantic knowledge nor the affected gravity of his Parisian *confrères*. He knew how to sacrifice to the graces—was a man of the world, and could as well make a madrigal as a consultation. His *rôle* medically consisted principally in filling his rich clients, fatigued by the pleasures of the court, with warm water, and in chasing away their gloomy feelings.

We know how it is at Vichy, for example: "One goes at six o'clock to the fountain, all the world is there, one drinks the water, and makes a villanous face, for the waters are boiling and have a very disagreeable taste of saltpetre. One turns, goes, comes, promenades, attends mass, passes his water, speaks confidentially of the symptoms accompanying his passing it, and this is the only question till mid-day. Then one dines, after dinner one makes a call, at five o'clock one goes to promenade in the delightful country, at seven o'clock one sups leisurely, and goes to bed at ten!" Poor invalids!

Madame de Sévigné submitted herself conscientiously to all the details of the thermal practice, from the shower-bath to

the hot-air bath. Before the shower-bath all the grandeurs of the earth disappear ; nevertheless, great ladies have the means of lightening its severities. " Behind a curtain," says madame, " there is some one who sustains your courage for a half hour. In my case it was a Dr. de Gannat, that Madame de Noailles brought to this watering-place and likes much. He is a very fine fellow, not a charlatan, nor preoccupied with any thing else (not even with medicine?). She has brought him to me out of pure and good friendship. . . . I retain him. He has mind and honesty—he knows the world, and finally, I am content with him."

Next it is necessary to go through the sweating process as a simple mortal. "*Viola*, still how good my doctor is, for instead of abandoning me for two hours to *ennui*, he reads to me. He knows how to live—he is not a charlatan, he treats medicine as a gentleman ; in fact he amuses me." He is certainly obsequious to amuse a very charming lady ; but you see at what price—that he must make concessions in his desire to please. Is it, then, astonishing that these weak mortals, who have doubts of their dignity, should prefer rather to renounce it than to lose their profit?

Practical Observations on the Etiology, Pathology, Diagnosis, and Treatment of Anal Fissure. By WM. BODENHAMER, A. M., M. D., Professor of the Diseases, Injuries, and Malformations of the Rectum, Anus, and Genito-Urinary Organs. Wm. Wood & Co., Publishers, 61 Walker Street, New York.

THE author has treated the subject of anal fissure in a most thorough and exhaustive manner. His style is easy, and his book instructive. Dr. Bodenhamer opposes the impression which Boyer produced, that, previous to his time, anal fissure was not accurately described or properly treated. He cites Paré's description of the disease as quite correct, and shows that painful spasmodic contraction of the sphincter-ani muscles formed the principal element in the diagnosis of the complaint as described by Boyer.

This spasm Dr. Bodenhamer regards as attending anal fissure in its advanced stages, as the result of reflex nervous action occasioned by the irritation of the fissure upon the mucous membrane contiguous to the sphincter-ani muscle.

He also shows that spasm complicating anal fissure was known to the ancients, and was remarkably well described by Paré.

The author, at page 33, observes: "We can most certainly conclude that if the fissures, the cause, are cured, the spasmodic contraction, the effect, will sooner or later cease."

Notwithstanding the very positive manner in which the author makes this assertion, we must dissent from him in our belief of the invariable correctness of this statement: painful spasmodic contraction of the sphincter-ani muscles, independently of a local lesion, is indeed rare, on account of the extreme sensitiveness of the ano-genital region in the lower animals, and also in man—it is not remarkable that a slight inflammatory lesion of the rectal mucous membrane should excite painful contraction of the sphincter muscles. This would be especially the case in hysterical females, and in delicate and impressionable males, separate from an exciting cause, as disease of the bladder, vagina, uterus, or other contiguous parts. But that painful spasmodic contraction of the sphincter-ani muscles does occasionally exist, quite independently of any lesion, may be readily inferred, when we reflect that such is sometimes the case respecting other parts, as the muscles, which cause flexion of the knee in certain hysterical patients, occasioning the most excruciating pain in the knee. There is a nervous element in the case of the hysterical patient, independent of any lesion of the knee; why not sometimes in painful spasm of the sphincter-ani muscles? Dr. B. alludes favorably to Mr. Curling's definition of anal fissure as an "irritable ulcer of the rectum."

Any painful ulcer of the rectum may come within the limits of the author's definition of the disease of which he treats. Among the causes producing anal fissures, he mentions constipation, irritating discharges, mechanical injuries, cutaneous affections, venereal complaints, and ulcers following the removal of piles by caustic or the knife. A thorough examination of

the rectum in all cases, by the improved means of diagnosis, is indispensable.

Dr. Bodenhamer's classification is based on the location of the disease: 1. Fissures on the outside of the anal orifice, similar to abrasions, narrow chaps, oval or circular ulcers, like the same lesions about the lips or angles of the mouth; sometimes dependent on herpetic affections, and attended with more or less severe smarting.

2. Fissures immediately within the anal orifice and opposite to, or on a level with, the external sphincter-ani muscle, and mostly on the posterior surface.

3. Fissures above the external sphincter, between the two sphincters; only seen by the speculum ani, but felt by the finger, and generally of an oblong or circular form, rarely linear, the size of a half split pea or silver dime. These fissures are generally on the lateral parts of the canal, seldom on the anterior or posterior parts, and cause a sensation to the finger as of an excavation. There is generally absence of spasmodic contraction of the sphincters.

4. Fissures situated opposite the internal sphincter or slightly above it. They are rare, or perhaps overlooked. There is dull pain with considerable sympathetic irritation at the neck of the bladder. The symptoms Dr. B. has quite well described. Previous to a physical exploration of the lower bowel, he causes it to be evacuated by a dose of castor-oil, or an enema followed by the use of the following suppository:

R. Extr. belladonnæ, 1 gr.
 Morph. sulph., gr. $\frac{1}{2}$
 Olei thebroma, 3 i
 M. et ft. suppositorium.

We recommend our readers to consult Dr. Bodenhamer's book for the details of physical exploration, and of treatment. He uses a reflector and delicate silver probe for detecting fissures which otherwise would elude discovery.

Dr. B. regards the division of the sphincter muscles as only palliative, and strongly disapproves of rupture by forcible dilatation with the thumbs. He is favorable to the use of the bougie, and advocates topical medication and scarification. He treats anal fissures like other sores. He alludes favorably

to the use of "juniper tar soap," of Caswell & Mack, druggists of New York. He uses salt and water to the parts, zinc and lead ointments, touches the sores with a solution of nitrate of silver, and uses ointments containing rhatany extract of belladonna, bismuth, etc.

Our author has an unquestionable right to sign himself professor of any or of all the diseases which afflict humanity ; but, with the kindest intention toward Professor B., we would suggest that as he has published an interesting book for medical men, and which we consider a valuable addition to the literature and practical knowledge of anal fissure, it is of questionable propriety to use the term professor in the extended sense accorded to it by lexicographers, when the medical profession attach to this term a more restricted meaning.

PROF. GUSTAV BRAUN, of Vienna, in a pamphlet forwarded by himself, furnishes tables giving the sanitary condition of the puerperal women in the Obstetrical and Gynecological Clinic of the Josefs-Akademie of that city, from October 1, 1856, to the end of June, 1867—a period of eleven years. The number of beds devoted to obstetrical purposes is fifty-four.

Braun divides the eleven years into two periods, viz. : from 1856 to June, 1863, before suitable ventilation was introduced—and from 1863 to June, 1867, after the introduction of Prof. Böhm's new apparatus for heating and ventilating the wards. For the first period the percentage of mortality was 6.1% ; for the second, 3.2%. For the years 1863–4 the mortality was, 2.5% ; for 1864–5 mortality, 2.3% ; for 1865–6 mortality, 2.8% ; for 1866 mortality, 5.4%. The sudden increase of mortality in the last year was due chiefly to the crowding of the surgical ward on the story directly above the obstetrical clinic.

During the first period the mortality was largest in the winter months, while during the second, for the first three months up to January, the mortality was very small. During January and February, though the mortality increased, it still remained relatively more favorable than during the same months previous to the introduction of the improved methods of ventilating and heating the wards.

Passing over a variety of interesting details, Braun concludes

that "small lying-in institutions do *not* show better results than the large, but rather the contrary."

Ventilation alone, though undoubtedly beneficial, is not sufficient to abolish puerperal diseases. Cleansing the hands before examining patients, though a valuable means, and one never to be omitted, does not, any more than improved ventilation, prevent puerperal affections. But the special and important conclusion of all to which he arrives is, that the *highest mortality corresponds to or directly follows the month in which the greatest number of births took place*; or, in other words, that the ill results are, in a great measure, directly traceable to over-crowding.

WE have received and examined with much satisfaction several numbers of a journal devoted to "Physical and Mental Culture," and entitled "Good Health." It is intended to be a popular medium of instruction on the subjects indicated above, and is so far above the usual character of popular journals of this sort, that we commend it with pleasure. We observe a goodly number of contributions from physicians of eminence in their special departments. Published at Boston by Alexander Moore, 21 Franklin Street.

DR. TANNER's well-known "Practice of Medicine" has just passed to a sixth edition in London. It has been considerably enlarged, and brought up to the present time in the advance of medicine.

ANNOUNCEMENTS OF MEDICAL PUBLICATIONS.—*Henry C. Lea, Philadelphia*: A Course of Practical Chemistry for Medical Students. From the fourth and revised London Edition. By William Odling.—*Lindsay and Blakiston, Philadelphia*: Diseases of the Eye, with their Medical and Surgical Treatment, with illustrations. By George Lawson, F. R. C. S. A Practical Treatise on the Diseases of Children. A new and almost entirely rewritten edition. By J. Forsyth Meigs, M. D.—*James Campbell, Boston*: Handbook of the Diseases of the Eye; their Pathology and Treatment. By A. Salomons, M. D. Photographs of Skin Diseases, taken from life, with descriptive letter-press. By Howard F. Damon, M. D.—

MacMillan & Co., New York: Reynold's System of Medicine, Vol. III.—*D. Appleton & Co., New York:* Vogel's great work on Diseases of Children. Translated from the fourth German edition. By H. Raphael, M. D. This work has already been translated into six different languages.

BOOKS AND PAMPHLETS RECEIVED.—Addresses delivered at the twentieth annual commencement of the Medical Department of Georgetown College. By James E. Morgan, M. D., and Frank Cowan, M. D. Pamphlet, pp. 15. [From Dr. J. F. Toner.]

Annual Address delivered before the American Medical Association at New Orleans, May 4, 1869. By W. O. Baldwin, M. D., President of the Association. Pamphlet reprint from the Richmond and Louisville Medical Journal, pp. 29.

The Illustrated Annual of Phrenology and Physiognomy. By S. R. Wells, pamphlet, pp. 67. New York: S. R. Wells, 1869. This little annual contains a good deal of useful information, outside the subjects to which it is especially assigned; and, for those who are devoted to the studies of Phrenology and Physiognomy, the book will prove doubly interesting.

Reports on the Progress of Medicine.

SURGERY.

- 1.—*Death following the Introduction of a Lithotrite into the Bladder.* King's College Hospital Report. [Lancet, August 21, 1869.]

This case, which occurred in the service of Mr. Henry Smith, is unusually interesting and instructive, as it shows what serious results may ensue from the introduction of an instrument into the bladder of an apparently healthy person, especially should there exist any disease either of the organ itself or of the kidney. Instances have occasionally been met with in the hands of various surgeons where death has rapidly followed even the mere introduction of a catheter or sound, and it is probable that in most of these instances some disease of the kidneys, which was not ascertained during life, existed to render the operation so dangerous. In the case we are about to relate, the man was of such a remarkably healthy appearance, of small and wiry frame, that there was not even a suspicion of any organic disease about him, and no case would appear to have been more favorable for an operation. Mr. Smith also used the utmost gentleness in introducing the lithotrite for the purpose of ascertaining the size of the stone, and had not the slightest difficulty in laying hold of it, and the fatal result of this manœuvre was a matter of astonishment to all those who witnessed the introduction of the lithotrite.

H. D——, aged sixty, a spare, wiry-looking, healthy countryman, was

admitted into the hospital on January 18th, with symptoms of stone. With the exception of these symptoms, the man seemed to be in remarkably good health.

On the 20th, Mr. Henry Smith introduced a moderate-sized lithotrite very gently into the bladder, and, opening the blades, immediately seized a stone, which he measured, and found to be about three-quarters of an inch in diameter, and apparently very hard. This proceeding only lasted a few moments, and produced scarcely any pain. Mr. Smith determined to crush the stone in a few days.

On visiting the patient on the 22d, Mr. Smith was surprised to find him suffering most severely from vesical irritation, the symptoms being continual desire to pass urine, which was effected with severe pain, and only in small quantities. Warm baths and opiates (both by the mouth and rectum) were exhibited, but gave scarcely any relief. The general system soon became affected, and a low typhoid condition was established; and the patient continued in this state of extreme suffering until the thirteenth day after the use of the lithotrite, when he died.

On *post-mortem* examination the following appearances presented: A stone, composed of oxalate of lime, and slightly covered by phosphates, was found lying on the base and left side of the bladder. It was nearly as big as a blackbird's egg. At the point where it lay there were three ulcerated patches, the mucous membrane being destroyed. The structure of the bladder itself was much thickened, and on cutting through its walls there were seen two or three cavities containing purulent matter, and these cavities were lined by a distinct and well-formed membrane. The prostate was much enlarged. The right kidney was much enlarged, and its surface was studded over with minute whitish deposits. The cortical structure was much congested, and the calices of the kidney contained some mucopurulent secretion. Left kidney healthy.

In some remarks which this case gave rise to, Mr. Smith stated that it was fortunately one of extreme rarity. He had never witnessed any bad results from the passage of a lithotrite, although, of course, like others, he had on more than one occasion witnessed the most violent symptoms, and even death, after a single act of crushing a stone. He must confess that he was sorely puzzled, when the violent symptoms came on, to know how to account for them, and he was in doubt whether he should not introduce the lithotrite, and break up the stone at once—a measure which is known to be very effectual in removing similar symptoms after a stone has been once broken probably into large fragments; but he thought the proposal too hazardous. Then the question naturally occurred to him as to whether he should not perform lithotomy, and thus remove what might be the offending cause. He considered this point very seriously, and conferred with his colleagues about it; but it was not deemed advisable in the condition the patient was in to resort to this step. The appearances after death justified the wisdom of non-interference; for it was clear that disease of the bladder, at least, had been going on for some time, and there is no doubt that the simple introduction of the lithotrite and measuring the stone had in that state of things excited fresh mischief. The most extraordinary feature in the case was the entire absence of any symptom of concomitant disease of the bladder when the patient first applied.

MATERIA MEDICA AND THERAPEUTICS.

1.—*On the Action of Digitalis in Typhoid Fever.* [British Medical Journal, July 3, 1869.]

Dr. Ernst Hankel has reported the results of investigations made on 80 cases of typhoid fever, under the care of Wunderlich, which were treated by the administration of an infusion of digitalis— $1\frac{1}{2}$ or 2 grammes to 180 grammes. The following were the chief results. 1. Digitalis, administered in suitable quantity in typhoid fever, always produces a considerable diminution of fever, lasting for several days, and lowers the pulse for some weeks. Hence the use of the drug is indicated in cases in which the temperature in the evening attains the height of 40.5° C. (105° Fahr.), and in the morning presents only slight intermissions; also in cases in which the contractions of the heart are 120 or more in the minute; particularly when these signs occur in the second week of the attack. 2. Digitalis lessens the delirium, and is indicated whenever this symptom coexists with unusual height of temperature and frequency of pulse. 3. The pulse, especially when small, becomes fuller after the administration of digitalis. 4. The administration of the drug is not contraindicated by albuminuria, or even by Bright's disease. 5. With proper caution on the part of the medical attendant, dangerous and deadly collapse need not be feared. Digitalis may be given without danger to anæmic and depressed patients. 6. A tendency to hæmorrhage is not much increased by administering digitalis. The infusion may be even continued during bleeding, if this be not very profuse. 7. Gastric catarrh is increased naturally by digitalis. 8. The duration of the attack is prolonged under the influence of digitalis, so that this remedy ought only to be administered in cases where danger is threatened by fever, low pulse, and cerebral symptoms.—*Archives der Heilkunde*, April, 1869.

2.—*Solvents for Croupal Membrane.* [Medical Press and Circular, April 14, 1869.]

The *Gazette Medica di Lombardia* records the results of many experiments on the solubility of false membrane. The specimens selected were as nearly as possible of the same consistence and of a gramme in weight.

1. Solution of iodide of potassium, one in ten. At the end of fourteen hours the false membrane was reduced to filaments.

2. Sulphate of zinc, same strength. After fourteen hours membrane had shrunk.

3. Bromide of potassium. After fourteen hours membrane was transformed into pulpy substance.

4. Chloride of sodium, chloride of barium, and hypo-sulphate of soda, gave same result.

5. Cyanide of potassium. Complete solution in fourteen hours.

6. Borax. Membrane became yellow and tough.

7. Muriate of ammonia. No result.

8. Sulphate of iron. No result.

9. Carbonate of potash. Complete solution.

10. Sulphate of soda. No result.

11. Chlorate of potash. In three hours became like charpie.

12. Lime water. Same effect in same time.

13. Bicarbonate of soda. Perfect solution in three hours.

14. Nitrate of silver, one in ten. Hardening and contraction.

3.—*Sulphite of Soda and Sulphite of Ammonium in Intermittent Fever.*

Dr. Wm. J. Chandler, House-Physician, Bellevue Hospital, furnishes (*Medical Record*) the following conclusions regarding the use of these remedies in this disease, drawn from the treatment of twenty cases with them in the service of Dr. Austin Flint in that institution:

1. That in a few cases the paroxysms of intermittent fever are relieved and possibly arrested by the sulphite of soda or sulphite of ammonia.
2. That in the large majority of cases these remedies fail entirely to arrest the paroxysms, or to lessen either their severity or frequency.
3. That these remedies require to be given in large doses for a length of time to effect any appreciable improvement.
4. That, when given in doses sufficient to modify or arrest the paroxysms, they produce considerable irritation of the stomach and intestinal canal.
5. That as remedies for intermittent fever they are in every respect vastly inferior to quinine.

4.—*Tonics in Dropsy.* By E. GAYLOR. [*British Medical Journal*, Feb. 27, 1869.]

The therapeutic value of certain preparations of iron in particular forms of dropsy has long been known to the profession, and the recent notice of the same in the *Journal* induces me to offer these few remarks.

The two forms of dropsy most likely to be benefited by iron are, first, that effusion which is produced by a watery state of the blood; and, secondly, that form of dropsy due to the impregnation of the blood with some noxious material. In a poisoned condition of the blood there is a stagnation in the capillaries, thereby causing an impediment in the capillary circulation. Mr. Power believes that the presence of urea in the blood interferes with the development of new blood-corpuscles, as well as spoiling those already formed.

These two forms of dropsy being marked by decay and deterioration, the proper remedies would be those which would help to form blood, assisted by nutrition, warmth, rest, etc. Dr. Basham, in his Croonian Lectures, 1864, says that iron is *not* the most efficacious in the form of the sesquichloride (the old *tinctura ferri sesquichloridi*), but as an ammonio-chloride, which he directs to be prepared as follows: "The ordinary dose of the sesquichloride is to be added to a drachm of the liquor ammoniæ acetatis, this being previously acidulated by a few drops of acetic acid." The sesquichloride must not be added to the neutral liquor, as an *insoluble* ammonio-chloride falls, which it is very difficult to take up again. If the saline be first acidulated, a very nice looking mixture is formed, which will keep good for any length of time.

This remedy seems to have the power of promoting the reproduction of cells, while it restores the powers of the organism. It is the nucleated cell which is involved in the disease; and it is also the nucleated cell which is the vital source of secretion and development. If a fair trial be given to this form of preparation, I venture to predict that it will be found one of the most valuable of the preparations of iron, and the best hæmatic in the whole range of therapeutics.

5.—*Substitute for Dover's Powder.*—By A. CHAPIN, M. D. [*Medical and Surgical Reporter*, July 24, 1869.]

For more than twenty-five years a bottle of Dover's Powder has stood unused on my shelves; not having diminished aught in the time. Its ex-

tre mely nauseous and offensive taste, especially to the fastidious and to children, led me to seek a substitute. The sulphate of potash used in the combination appears to have been taken to promote the minuter division of the particles of the opium and ipecac. in the process of trituration. Its medicinal qualities are quite insignificant, insufficient to justify inflicting it unnecessarily on the sick. At any rate, its offensiveness to my patients induced me to lay it aside and to devise the substitute, which I have ever since used, and which seems to answer equally well, every indication, and does not so offend. The camphor modifies pleasantly its taste and its effectiveness. It is as follows:

MODIFIED DIAPHORETIC.

R.	Opii pulv.,	3 j.
	Ipecac. pulv.,	3 ss.
	Camphor. pulv.,	3 ij.
	Saccharum,	3 iv.

Mix thoroughly.

The foregoing has about a grain of opium in eight grains of the powder. I often use sul. morphia, in due proportion, instead. Omitting the opiate altogether, where contraindicated by intolerance or other cause, the residue combination, camphor and ipecac. is a convenient diaphoretic, in six or eight grain doses; *pro re nata*.

In regard to rejecting the ipecac. altogether as suggested by your correspondent, H. H., in your number for July, the idea is quite new to myself, and, after the long and extensive use which has been made of it as a diaphoretic in combination with opium, by the whole profession, I should hesitate before coming to such a conclusion.

The formula substituted for Dover's Powder by your correspondent, G. H. H., and termed by him Dr. Brinsmade's Diaphoretic Powder, viz.:

R.	Morph. sul.,	3 j.
	Camphora,	
	Cret. prep.,	
	Saccharum, aa.	3 xx.

must be a good anodyne. The chalk strikes me as being unnecessary, being added, doubtless, to prevent concretion, and when mixed with water must furnish a turbid precipitate, repulsive to the patient, and requiring the nurse to poke it from the spoon with her finger. Would not some soluble powder be preferable, say, an increase of sugar? I have found, in my own experience, that if the ingredients, opium, camphor and sugar, are thoroughly dried when mixed, and kept well corked, they will not trouble much by concreting.

6.—*Cold Water in the Treatment of Febrile Diseases.* [Editorial, Lancet, September 18, 1869.]

In the course of a visit to Central Switzerland, the traveller must almost necessarily pass through the town of Bâle; and, as many of our readers, doubtless, are intending to go immediately on a Swiss tour, it may be well to call their attention to the fact that even in medical matters there is much to be seen that will interest them highly. Bâle is, at present, the residence of several very able and distinguished physicians and surgeons, and a good deal of first-rate scientific work is being done there. But we specially mention it here because the medical clinic of the General Hospital affords an opportunity for studying the effects of a mode of treatment which is unaccountably neglected by the majority of the regular profession

in this country. The use of the cold bath in all febrile diseases is carried out, under the skilful direction of Professor Liebermeister, with results which appear to us very striking. Whenever the temperature rises as high as 102° Fahr., or thereabouts, the patient is placed in a plunge-bath of temp. 54° , and kept there for ten minutes on the average; he is then immediately enveloped in a blanket and put into bed. The axillary temperature is strikingly lowered in this way, and the lowering goes on for some time afterward. In the course of two, three, or more hours, however, it may have risen to its old height; and, as soon as this is seen to be the case, the bath is at once repeated. In this way, as many as five to seven or eight baths may have to be given in the twenty-four hours. It is affirmed with a singular unanimity by all the practitioners of Bâle that this treatment is useful in every way; that it not merely notably diminishes the mortality (when properly carried out from a fairly early stage), but that the effect of constantly preventing the temperature of the blood from rising above a certain point is to ward off delirium and coma, and to diminish greatly the nervous oppression and distress which the patient suffers.

To those who are accustomed to follow the course of practical medicine in Germany there will be nothing new in this; for the writings of Jürgensen, of Ziemssen, of Küchenmeister, and others, including the remarkable work of Liebermeister himself, will have made them aware of the great attention which is now given to the scientific use of hydropathy in various forms in acute diseases. But the surprising fact is, that in England, the country of Currie (the real founder of all scientific knowledge about the use of cold-water in acute diseases), the subject is almost entirely neglected, not merely by busy practitioners, but in our great hospitals, where the method might be so easily and so well carried out. Were it but for purposes of experiment, it seems to us that all our large hospitals, and especially our fever hospitals, should at once commence and carry out a systematic trial of this treatment. The great metropolitan hospitals are more especially called upon to do this work, because they possess, in the students of their schools, a staff of assistants who would greatly assist in making the numerous thermometric observations which are necessary. For it must be well understood that, without the most careful and repeated observations on this point, the cold-water treatment is useless or hurtful, and that to do good in any thing like severe cases it is needful to be very persevering. If, as we understand, the mortality of typhoid at Bâle, under the cold-water treatment, was only between 7 and 8 per cent. in a bad year, and less than 3 per cent. in a year when the milder type of the disease prevailed, a strong *prima facie* case is made out, by that fact alone, for immediately instituting experiments on a large scale in this country. But, when the whole mass of existing evidence is fairly considered, the obligation becomes much stronger; and we shall be surprised indeed if any long time is allowed to elapse before every large hospital in London gives a fair and extended trial to the cold-bath treatment of febrile diseases.

7.—*Lime-water in the Treatment of Bright's Disease.* [Medical Press and Circular, July 28, 1869.]

Küchenmeister recommends, in the treatment of Bright's disease and of nephritis after scarlatina, the use of large doses of lime-water, theoretically from its having the property of dissolving proteine. *Lyon Médicale* details the treatment, and says that caustic lime in solution, or any of the soluble salts of lime, will answer equally well. He has seen the urine increase from 30 grammes to 120 the first day, 180 the second, 300 the third, and up to 1,020 the seventh day under this influence; sometimes a slight

hemorrhage necessitates the disuse of this treatment; but the quantity of albumen in the urine sensibly diminishes.

8.—*On the Use of Strychnia in Certain Forms of Epilepsy.*
By WALTER TYRRELL, Esq. [British Medical Journal,
August 7, 1869.]

In a disease like epilepsy, of which the pathology is very obscure, it is satisfactory when we can say that we have established any definite fact, more especially when that fact is one bearing upon treatment. Now, that bromide of potassium has a decided effect in relieving certain forms of epilepsy is one such fact; and I wish to point out in this note what I think will be established, on trial, as another fact equally worthy of notice: viz., that other varieties of epilepsy may be cured by strychnia. I do not mean to say that I can point to this or that case, and say it will be cured by strychnia; in our present state of knowledge we are unable to do this with any remedy; but I think I can point to a large class of cases in which the administration of strychnia will be followed in the majority of cases by the most beneficial results. There is a common form of epilepsy in which anæmia and defective nervous control are prominent symptoms. The majority of these patients are women, and with them the disease is apt to commence at or about the time of the first menstruation; and the attacks show a disposition to occur more frequently and with more severity near the catamenial epoch. In the intervals of menstruation, the disease often shows itself irregularly in the form of *petit mal*. In such cases, and in children in whom epilepsy, often commencing with some of the varieties of *petit mal*, gradually passes into the more severe form, this plan of treatment by strychnia is very successful; and there are few cases which are not benefited by a perseverance in its use.

My experience would lead me to believe that large doses are unnecessary; for, although I have carried the dose as high as one-third of a grain twice daily, with benefit, I am now in favor of employing smaller amounts, given more frequently. I have been using this remedy now for nearly ten years, and I can certainly show some valuable results. I am now preparing to tabulate the whole of my cases for publication in a collected form.

I much wish that some of my medical brethren would give the remedy a fair trial in some of the cases I have mentioned, or in any cases in which bromide of potassium has failed to relieve. To any wishing to give it a trial, I shall be happy to give any further details.

DISEASES OF CHILDREN.

1.—*Case of Spina Bifida of an Unusual Character.* Reported
by RANDLE BUCK, M. R. C. S. [British Medical Journal,
July 17, 1869.]

Mrs. F. D. was delivered of a female child on July 4, 1868; the labor was in all respects a natural one. After securing the umbilical cord, my attention was attracted to a peculiar appearance in the back, which, on closer inspection, proved to be spina bifida, but presenting these curious features. The child lying on its face, there was before me in the lower dorsal region, what, at first glance, looked like a blister produced by cantharides, perfectly circular, and measuring three and a half inches across it. Down the centre, the spinal cord was plainly visible; it seemed raised out

of its canal and adherent to the sac, which was distended with fluid. I applied a light bandage and placed the child on a soft pillow, on which it might be carried. The spinal cord being so little protected, I thought death would soon take place. There was a small escape of fluid from the sac, so that the bandage in a few hours became saturated.

The child continued in this state till July 30th, when the escape of fluid above mentioned ceased, and in a few days the head (which had hitherto been of natural proportions) began to increase in size, the sutures became widely-separated, the frontal bone very prominent, the eyes depressed and squinting. From this time up to death, on November 8th, both head and sac gradually increased in size, the sac discharging some fluid at intervals. When this occurred, the head diminished in proportion. The circumference of the tumor was $11\frac{1}{2}$ inches; of the head, 19 inches. Examination, twenty-six hours after death. The sac consisted of epidermis and membranes of the cord. It contained a very large quantity of cerebro-spinal fluid, and three inches of the spinal cord with nerves adherent to the sac. The spinous processes of the eleventh and twelfth dorsal and first lumbar vertebrae were missing.

I should mention that, for some time before death, the child was completely paralyzed, but there were no convulsions.

2.—*Lithotomy and Lithectasy in Children.* By Mr. F. CHURCHILL. [Medical Times and Gazette, June 12, 1869.]

Four very interesting cases of stone in the bladder in children have recently been operated upon in St. Thomas's Hospital with success, two of them by Mr. Solly, the patients being a boy and a girl, the other two by Mr. Sydney Jones, both being boys. The comparative immunity of children from renal or other complications is now recognized as one of the principal reasons why this operation is so much more successful in children than in adults. It will be seen by the details given below that each case terminated most favorably; not a single untoward symptom occurred in any one of them, the progress toward convalescence being quite satisfactory. As they have now left the hospital quite well, it may be interesting to contrast the history and treatment in each case. In Mr. Solly's second case, that of a little girl aged six, the stone was extracted through a previously-dilated urethra. Although the comparative success of this operation in children would warrant the surgeon in interfering as early as possible, the inexperienced lithotomist must understand that this success is mainly due to a careful *tactus eruditus* during the second stage of the operation—viz., the cutting into the bladder; for the prostate gland, being in an undeveloped condition, cannot serve as a guide to the groove in the staff. Then, again, additional impediments to the surgeon in reaching the neck of the bladder are the pyriform shape, and the position of the bladder, which is higher up in the pelvis, and consequently less fixed, than in the adult. In neither of these cases, however, was there any difficulty during the first or second stages. In the case of lithectasy, although the stone had been detected by the sound when the patient was laid on the table, Mr. Solly could not detect it with the forceps, the reason being that, with the first gush of urine, the bladder had formed an hour-glass contraction at its centre, and, this constriction being felt, Mr. Solly passed the forceps well upward and backward, and found the stone lying at the fundus of the bladder. It was then removed without any difficulty. In Mr. Solly's first case the boy had been operated upon twice before, and on each occasion he had been troubled with a fistulous opening in the perinæum for some months after; ultimately it closed completely. It is now three months since the last operation, and

the fistulous opening has almost entirely closed, only a few drops of urine passing this way during each micturition, but not at any other time. In neither of Mr. Jones's cases had the patient been previously operated upon for stone. In the first case, that of a cripple, aged 18, the stone originally was an ordinary mulberry calculus, but it had become coated over with some large crystals of triple phosphate. Properly speaking, this lad, being beyond the age of puberty, should be classed with stone in adults, but, from the remarks which we have made, it will be seen that the general features of the case may be better compared with those occurring before puberty. The stone in the second case was about the size of a small hen's egg, and was found to consist for the most part of large conglomerate masses of uric acid crystals intermingled with layers of phosphatic deposit, especially toward the base, where the stone was flattened by resting upon the *bas-fond* of the bladder.

3.—*Cancer of Kidney in an Infant.* By C. F. GEORGE, M. D.
[Boston Medical and Surgical Journal, May 13, 1869.]

On the 12th of January, I was called to see the patient, female, aged 17½ months. Found her pale, considerably emaciated, irritable and restless; sleep disturbed; appetite variable; bowels constipated. Urine apparently natural as to color and quantity; no pain on passing it. In the left hypochondriac region was a tumor, extending from under the ribs downward and forward to within an inch and a half of the umbilicus, attached at its upper extremity and movable at its lower. It seemed about the size of a large goose-egg, was not painful on pressure, and there was no fluctuation. A little bulging of the side; none backward.

The previous history of the case was—whooping-cough at three weeks of age; measles at one year; otherwise she was apparently as healthy a child as usual of her age. About the first of last November she was weaned, and from that time the mother dates the first symptoms of failure. These were mainly variable appetite, constipation, irritability and restlessness, with gradual loss of flesh. The mother first discovered the tumor on the 1st of January.

After I saw her, the appetite improved, the bowels became more regular, and she slept better; but still some irritability remained. January 24th, and during my absence, Dr. J. M. Smith was called. The tumor then extended to the umbilicus, and was larger laterally. About this time she had a slight febrile movement, and some difficulty in passing urine, which was scanty and high colored. This passed off in three or four days, and the child seemed about the same as before.

February 10th and 17th, Dr. Pinco saw the case. The child was pale and emaciated; appetite failing; bowels quite regular; urine natural (apparently); tumor increased in size, not fluctuating, but slightly tender.

From this time the appetite continued to fail; bowels became a little constipated; irritability increased; patient restless, and at times seemed to suffer a little pain. Urine freely passed, and without difficulty. Tumor rapidly increased. About the first of March, slight fluctuation in the right side was discovered. Feet, legs, and face, became œdematous, though at no time was the swelling very great. Still pale (white) and losing flesh. After this she rapidly failed, and died March 12th, of exhaustion (seemingly), and without distress or pain.

On examination, the emaciation was extreme. Abdomen enormously distended; sides bulging out, and somewhat backward. Two or three ounces of fluid in the cavity; and the tumor occupied nearly the whole space, with some slight adhesions of the peritonæum, but not enough to

indicate much inflammatory action. The tumor extended from under the left ribs to the brim of the pelvis. The liver, spleen, and stomach, were pushed upward; and the pancreas and transverse colon were quite firmly attached to the upper extremity of the mass. The descending colon was pushed forward and inward, so that it occupied the median line immediately under the anterior walls of the abdomen. The small intestine was crowded into the right iliac region. The mass was found to be the left kidney; it weighed 5 pounds and 15 ounces when first removed. The bowels were empty. The right kidney seemed natural, as also the liver and spleen. The lymphatic (mesenteric) glands were a little enlarged. On making an opening in the tumor, a considerable quantity of fluid escaped.

Family History.—Paternally, the whole family are more or less scrofulous. Maternally, family healthy; no constitutional disease, excepting a "traditional cancer" three generations back.

The diseased mass was carried by Dr. G. to Dr. Pineo, of Hyannis, who sent it to Dr. Jackson in an entire state and perfectly fresh, excepting the puncture made by Dr. G. Dr. J. showed it to the Society for Medical Improvement, and he and Dr. Coolidge gave subsequently the following description:

"The mass was of an oval form; $8\frac{1}{2}$ inches in length, $6\frac{1}{2}$ inches in width, and 5 inches in thickness; weight, 5 lbs. $3\frac{1}{2}$ ounces. Upon one surface there were the remains of the kidney, about two inches in extent; and, including this, was a somewhat defined, oval, superficial patch, about $6\frac{1}{2}$ inches by $2\frac{1}{2}$ inches in extent, and that strongly suggested the idea of a connection with the original outline of the organ. Around this patch the surface was lobulated, and radiated in appearance, but upon the opposite surface it was much more even. The irregularity was much more apparent after a fibrous envelop had been stripped off that was quite marked for the most part, and moderately adherent by a lax tissue, though less so to the patch above referred to than to some other parts. Toward the surface where the patch was, and throughout nearly one-half of the whole mass, the structure was white, not vascular, had a pearly translucency, and was softer than foetal brain, with an appearance as if it were infiltrated with a ropy fluid. The remainder was much firmer, and evidently contained more or less connective tissue, the softer and firmer portions passing gradually into each other. This last was also stained by blood, and in some parts quite deeply, though no free clots were found. There was also a small serous cyst in this firmer portion. The portion of kidney above referred to was perfectly healthy in appearance; and, on incision, there was found, within, a well-marked pelvis that could be traced for three or four inches, and infundibula arising from it, with portions of the renal substance that had undergone more or less the cancerous transformation. There were also found in distant parts, but upon the surface of the mass only, several small, insulated remains of perfectly healthy renal substance, about three or four lines in diameter.

"Under the microscope, the soft substance, which constituted so large a part of the disease, consisted of innumerable, roundish cells, not varying much in size or form. They had large nuclei, and were embedded in a soft, streaky, ropy mass. At the end of a week, the specimen not having been preserved in any way, the nuclei alone were visible; the substance of the cells having become undistinguishably fused with the mass in which they were."

4.—*Spina Bifida; Injection of Iodine; Recovery.* [Medical Press and Circular, August 11, 1869.]

The rule is that these cases die. M. Roux, of Meximieux (France), has recently published in the *Bulletin de Thérapeutique*, the case of a girl, six

weeks old, presenting this deformity. The tumor hung from the extremity of the sacrum to the lower third of both thighs. The author first made an exploratory puncture, and removed about an ounce of limpid fluid. He tried then the following plan: An assistant was desired to hold the tumor in such a manner as to occlude the opening into the spinal canal; the operator then injected an ounce of the following solution: Distilled water, eleven drachms; tincture of iodine, three drachms; and iodide of potassium, 180 grains. The liquid was left five minutes in the sac, the latter being kneaded with the hand of the operator. The solution was then withdrawn to the last drop by the exhausting agency of the syringe. This proceeding succeeded so well that, in a fortnight, there was only a hard nucleus left, no larger than a walnut. M. Roux attributes his success to the occlusion of the canal, and to the withdrawal of the very last drop of the injected fluid.

5.—*Calabar Bean in Trismus Neonatorum.* [Medical Press and Circular, August 25, 1869.]

Dr. Alois Monti, of the St. Ann's Child's Hospital, reports three cases out of five cured by this remedy. He prefers subcutaneous injections, as he thinks the internal use uncertain. He repeats these injections every ten or fifteen minutes until the spasms cease; then intermits them even for several hours until the cramps return. For new-born children he uses one-tenth grain of the extract per dose, and goes up to one-third, one-half, or a whole grain a day. Older children can commence with one-third grain per dose. For internal use, from one to four grains a day may be given.—*Jahrb. für Kinderheilk.*

OBSTETRICS AND DISEASES OF WOMEN.

1.—*Case of Locked Twins.* Reported by MARTEN PERRY, M. D. [British Medical Journal, June 26, 1869.]

Compare with this the very interesting case of locked twins reported by Dr. Tellkamp, in this JOURNAL, in May, 1867, where may also be found a record of eight other cases, reported by various authors.

M. S., primipara, aged 28, menstruated last at the beginning of September, and expected her confinement at the end of May or beginning of June, 1869. During the pregnancy she had enjoyed her usual health till the first week in March, when I was called in to attend her for severe muscular pains on the right side of the chest from incessant coughing. She was quickly relieved, and well again in a week or less. Slight labor-pains set in about three or four o'clock in the afternoon of Friday, March 19th, but did not become severe till about 2 p. m., on the following day. The membranes gave way spontaneously about four o'clock, and a midwife was then summoned. She examined her patient about five o'clock, and states that she found a foot presenting; but, considering herself competent to manage the case, did not send for assistance until she had in vain tried her skill at traction.

I first saw the case about 9.30 p. m., and ascertained that a breech was already born. There was no pulsation in the cord; the legs and body were cold and livid; and the child's face was looking toward the pubes of

the mother. I proceeded to draw down first one arm and then the other, without encountering any thing unusual, and, as the head did not even then follow, I introduced the forefinger of my right hand with a view of placing it in the mouth of the fœtus and thus expediting delivery. Instead, however, of meeting with a mouth, I found, to my great surprise, an eye. I then sought and readily detected its fellow, and above them the nose and mouth. Having withdrawn my right hand, I introduced the left at the back of the neck, and fairly passed it up between the neck of one child and the face of another, this face looking also toward the pubes of the mother. My next step was to try whether I could press back above the brim the second head; but, not succeeding in this, and being satisfied that, though the pains continued very severe, no progress of moment had been made since the arms were brought down, I concluded that Nature unassisted would be unable to effect delivery without great risk to the mother, and determined to have the opinion of another medical man before undertaking what I foresaw would be necessary to enable the children to be born. I thereupon gave the patient fifty drops of tincture of opium, and dispatched the husband to Evesham for assistance.

My friend, Mr. A. H. Martin, rode over at once, and was with me in about an hour. During the interval the pains had continued violent, but though the head of the second child had descended to the perinæum, it was but too evident that something must shortly be done. Mr. Martin agreed with me as to the steps to be taken in this emergency, and at 0.15 A. M., seized the shoulders and forcibly drew them down. I then retracted the integuments of the chest and shoulders as much as possible, and (while he protected the maternal structure) divided them low down with a bistoury. The third and fourth vertebræ having been already dislocated by traction, there was a large flap to cover the bones, and protect the vagina from injury. The pains then subsided for some time, but on their return the second head began to advance. We then pressed upward the disarticulated head, and retaining it during one pain as high as possible, the head of the second child came down more readily, distended the perinæum, and was speedily expelled with its face still toward the pubes. Mr. Martin then turned its face toward the right hip (upward), and, at the next pain, the *detruncated head* descended at the back of the neck, distending the perinæum to an immense extent, and was at once expelled between the thorax of the second child and the coccyx of the mother. The body of No. 2 speedily followed, still-born, and about ten minutes afterward the two placentæ. These were perfectly distinct, and connected only by the membranes. The perinæum was not ruptured in the slightest degree. There was no hæmorrhage, and the uterus contracted thoroughly. We gave, however, a drachm of liquor secalis, applied a binder firmly, and left a few doses of laudanum to be given if required. The twins were both female; and each weighed four pounds and three quarters. The mother recovered without a bad symptom.

REMARKS.—The above case is, I think, of sufficient rarity to warrant my forwarding an account of it for publication in the *British Medical Journal*. Since I penned it I have consulted all the text-books at my disposal, and only one of them relates a case in which amputation had been resorted to. This is the case of Mr. Elton, of Windsor, which is given by Dr. Murphy. In the columns of our invaluable journal, however, are several cases of locked heads, and it appears that the treatment above pursued is that which has been most frequently adopted. In neither of the recorded cases does it appear that both (if either of) the faces turned toward the pubes. Doubtless this position of the children increased the difficulty of the present case. Failure in the endeavor to accomplish the suggestion of Dr. Barnes, and apparent inability of natural powers to complete the delivery

with safety to the mother, rendered necessary the amputation of the first head or perforation of the second. At my request, Mr. Martin had brought craniotomy instruments with him; but, as the first child was evidently dead, and we had nothing to indicate the death of the second, we decided on first trying the above means rather than run the risk of destroying life.

2.—*A Case of True Hæmatometra.* [Buffalo Medical and Surgical Journal, August, 1869.]

At the August meeting of the Buffalo Medical Association, Dr. W. O. Taylor reported the following case for Dr. James P. White: Mrs. B—, aged 26, has had one child, which is living; five months ago had an abortion which was followed by hæmorrhage, low fever, peritonitis, and an abscess in either labia majora. July 17th, the patient, by advice of her attending physician, Dr. Benedict, of Dunkirk, applied to Dr. White, of Buffalo, for relief from some undetermined uterine trouble. On examination, Dr. White found complete atresia of the vagina. Introducing the finger into the rectum, a large tumor could be distinguished, moderately soft and apparently containing fluid, probably retained menstrual fluid.

The doctor succeeded in introducing the finger a short distance into the vagina, breaking down firm adhesions as he proceeded; some hæmorrhage followed, and further interference was deferred, and the vagina plugged with cloths saturated with glycerine.

July 18th.—Patient comfortable, Dr. White, with Drs. Potter and Taylor as assistants, placed the patient on the side of the bed, and administered chloroform. The doctor again endeavored to introduce the finger within the vagina. The adhesions connecting the vaginal walls yielded to continued and strong pressure by the finger, and the lower portion of the tumor, which proved to be the distended uterus, was reached. The uterus was then firmly grasped and pushed downward by Dr. Potter, while Dr. White pushed the right fore-finger through the occluded os uteri externum. On withdrawal of the finger, from twenty-six to thirty ounces of thick, dark-red, pitchy fluid escaped. The uterus was then washed out with warm water, the vagina plugged with cloths soaked in a solution of glycerine and liq. ferri persulphatis. A compress was applied over the uterus, secured by a bandage around the pelvis, and half gr. doses of sulphate of morphia prescribed.

July 19th.—The patient was doing well. Since this date she has gradually improved, and on Saturday, July 31st, she returned to her home. She was directed to wear a glass dilator to prevent contraction of the vagina.

August 14th.—The patient returned to Buffalo. Her health had improved very much. The genital canal was entirely free from obstruction, and she was menstruating freely without pain. The dilator she had been using was exchanged for one larger.

On examination, per vaginam, after the evacuation of the fluid, the cavity of the uterus appeared to be almost continuous with that of the vagina; the thin flabby cervix was pressed against the vaginal circumference, and the lips of the widely-distended os tincæ imparted to the touch the sensation of a soft membrane, standing out two or three lines from the vaginal walls with an irregular torn edge, yielding in any direction to the slightest pressure. Dr. White considered the uterus hypertrophied, although the uterine parietes were very much attenuated, owing to the distended condition of the cavity of this organ. In other words, the weight was greater than that of an ordinary uterus, although the walls were much thinner than usual. The temperature of the cavity was probably not

above the normal temperature of cavities in the body excluded from the atmosphere.

The above is a rare and typical case of true hæmatometra of the uterus, produced by atresia of the entire vaginal canal, and occlusion of the os tinæ, these lesions most probably originating in inflammation at or after the time of the above-mentioned abortion.

At the same meeting Dr. Miller narrated the following very unusual and interesting case, in some respects similar to Dr. Taylor's case:

Dr. Tobie, of this city, a few months since, had under his care a young German girl, about sixteen years of age, at this time quite healthy in appearance and well developed. The patient had complained, for several months, of most severe pain, lasting five or six days, and appearing regularly every four weeks. The abdomen was enlarged to about the size of pregnancy at the sixth month. Upon examination, Dr. Tobie discovered that there was no vagina; that the space between the urethra and rectum was occupied with dense fibrous unyielding tissue; that the uterus was distended with fluid; and he believed that the pain was due to the monthly secretion and increase of fluid. He now proposed an operation for relief; and I was associated with him in an operation for establishing an artificial vaginal outlet for the menstrual fluid. The patient being fully anæsthetized, an incision was made in the site of the vagina, dividing the fibrous and muscular tissues with the scalpel to the depth of one and a half or two inches, the finger assisting to dilate and extend the opening. A large trocar and canula was now passed into the womb, and the diagnosis fully confirmed. The grumous, dark, tenacious, gluey fluid was too thick to pass through the canula, and the instrument was withdrawn. The finger now dilated the opening, extending it in all directions, so that the fluid gradually escaped. About two quarts, according to recollection, were obtained, and the distended abdomen relieved. The uterus contracted down to more natural proportions, but how perfectly he was unable to state. The patient was relieved of former pains, but another train of symptoms appeared. There has been an exhausting muco-purulent discharge, which appears likely to continue until it produces a fatal termination. Symptoms of general disease are also present.

He had related the main features of the case as illustrating a source of danger after such operations; but, aside from this, the case had features of great interest. This was a congenital malformation of great rarity—probably only a few similar cases are on record. It is not very uncommon for the os uteri to become occluded; inflammation of the os and neck may, and quite frequently does, result in closure of the canal. The vagina also becomes occluded in something the same way. Inflammation of its walls results in partial or even complete closure. Complete absence of vagina, neck and os uteri, must certainly be rare.

3.—*A New Method of Embryotomy.* By Dr. ROBERT BARNES. [British Medical Journal, June 19, 1869.]

At the June meeting of the London Obstetrical Society, Dr. Barnes described and demonstrated a new method of embryotomy, by which a mature foetus could be extracted through a pelvis measuring not more than an inch in the conjugate diameter. In the case of a pelvis contracted to three inches in the conjugate diameter, embryotomy was justified by the presumption that by it the mother was saved from danger; and, in the case of contraction to two inches or one inch, it was on the

same principle justifiable. The difficulty was to carry out the proceeding with reasonable safety to the mother. He had long felt that the problem, how to extract a mature fœtus through a pelvis, narrowed to one inch, without injuring the passages, ought to be solved, so that the Cesarean section might at any rate be further restricted. Van Huevel's forceps-saw cut up the child's head by making a chain-saw travel up from the shanks of the forceps blades. But, in extreme distortion, there was not room for the blades to pass. Dr. Barnes's operation consisted in passing a loop of strong steel wire over the head by means of Weiss's *écraseur*, and then making sections. He showed the operation on a pelvis nearly two inches in diameter, and a seven-months fœtus. Dr. Barnes first perforated the head, then introduced the crotchet to steady it; then passed the wire-loop into the uterus, which could be done by compressing it; and when the loop was sufficiently high, by removing the compression, it opened by its elasticity, and was made to seize the head in its circumference at the occipital end; then, by working the screw, the wire made a clean section of the head, taking off all the posterior part; this part was then removed by craniotomy-forceps. The wire was then reapplied in the longitudinal direction of the head, seizing under the jaw and ear, and another section was made through the base of the skull. The remains of the head were then seized by Dr. Barnes's craniotomy-forceps, and easily drawn through the pelvis. He then perforated the chest, hooked the crotchet in the axilla of one arm to draw it down within reach of the embryotomy-scissors; then the chest-walls were cut up by the embryotomy-scissors, and drawn through the pelvis, the other arm being previously cut off or not. The operation involved little or no pressure or contusion, or dragging upon the uterus, or other soft parts. The wire buried itself immediately in the head, and no bulky instruments or manœuvres, bruising the soft parts, were necessary.—In answer to Dr. Tyler Smith, Dr. Barnes said he had not yet performed the operation on the living subject.—Dr. Cleveland thought that, in cases of high distortion, after removing the bones of the cranium, the real difficulty had still to be encountered; for, in a recent case of the kind to which he alluded, he had, after long perseverance, removed every particle of the skull, as well as all the cervical vertebræ, and was then foiled in the attempt to bring down the rest of the body within operative reach. After death, the child was found to weigh about eight pounds, without its head, and the shoulders, when compressed into as small a space as possible, were out of all proportion to the size of the pelvic inlet.—Dr. Barnes could but repeat his conviction, based upon experience, that he could bring not only the head, but the trunk of a mature fœtus through with nearly as much facility and accuracy as the Fellows had seen done in the experiment.—Dr. Hicks considered Dr. Barnes's method a clear means of reducing the head to a minimum.—The President observed that the value of the procedure must be tested by experience; but, for the originality of the operation, Dr. Barnes deserved the greatest credit.

4.—*Successful Ovariectomy in a Girl Twelve Years of Age.* [Medical Press and Circular, June 23, 1869.]

At a meeting of the Société Impériale de Chirurgie, May 26, M. Jouon, of Nantes, related an extraordinary case of ovarian tumor successfully operated on, which is reported in the *Union Médicale*. A little girl, twelve and a half years old, had suffered for eighteen months from a very large abdominal tumor, which had become of such a size as to have reduced the girl to an extreme state of exhaustion. The belly presented the appearance of a twin gestation at the extreme period; it was dense and fluctuating everywhere but at the left hypochondriac region, where the intestines were

lodged. The age of the child, the absence of all signs of puberty, and the impossibility of isolating the liver, made the diagnosis of ovarian tumor doubtful. Recamier's method of opening the cyst by caustic was adopted, and a large quantity of very albuminous fluid made its escape; a sound was introduced, and a multilocular sac was found, proving the existence of ovarian cysts.

On the 15th of March ovariectomy was performed. There were strong adhesions to the abdominal wall where the caustic had been applied; several punctures with a large trocar were unsuccessfully made into the sac; during the effort of extraction, two large cysts at the back of the tumor gave way; the entire mass was extracted, leaving a long pedicle from the left ligament; a clamp was applied, and the pedicle divided. The epiploon required two ligatures; the closing suture embraced a portion of peritoneum on each side; but coaptation was difficult, owing to the thickness of the membrane. Frequent vomiting occurred during the first thirty-six hours, but complete cure was finally accomplished by second intention in forty-six days. The tumor consisted of three large cysts, and the total weight, solid and liquid, equalled twenty-six pounds.

5.—*Successful Ovariectomy in the Fourth Month of Pregnancy, after Rupture of the Cyst and Peritonitis.* By HENRY BATEMAN, F. R. C. S. [Lancet, September 18, 1869.]

Ovariectomy has now succeeded in so many instances that it has fairly taken rank as a capital surgical operation, offering fairer hopes of recovery than amputations of the limbs. Individual cases of this operation have, therefore, scarcely a claim for separate publication unless they either occur in some country where it has still to make its way in general estimation, or in which some special circumstance exists to invest it with unusual interest. Such was the case in the following instance:

A married lady, thirty-six years of age, the mother of eight children, first consulted me on the 23d of last July. On examination, I found her to have an ovarian tumor of the right side, ascites, pregnancy of about three months' duration, and extensive recto-vaginal protrusion. When twenty years of age she had twins; and, after the delivery of her second child, a tumor was discovered in the right iliac fossa, which at first gave rise to the idea that she had a third child. The mistake was soon discovered, and she had a good recovery. From this time swelling of the abdomen increased very slowly during the next sixteen years, and occasioned scarcely any disturbance of the system until about a fortnight before my visit. She had then a sudden attack of abdominal pain and tenderness, with sickness and fever, followed by a marked and rapid increase of the abdominal swelling.

The case was full of peril when I was called in, for, although the abdominal tenderness was subsiding, the effusion was increasing. There were considerable difficulty of breathing on lying down, and great restlessness, with scanty and deep-colored urine, abounding in lithates.

Having suggested the propriety of consulting Mr. Spencer Wells, he saw the case with me, and entirely concurred in my diagnosis as to the presence of an ovarian tumor, with free fluid surrounding it in the peritoneal cavity, and depressing the recto-vaginal pouch, and in the existence of pregnancy about the commencement of the fourth month. We also

came to the conclusion that the fluid in the peritoneal cavity was ovarian fluid, the sudden attack of pain when I was first called in having been caused, in all probability, by the rupture of part of the wall of a multilocular cyst, and the escape of the contents of a large cyst. Pain, tenderness, raised temperature, rapid pulse, dry tongue, and sickness, all pointed to diffused peritonitis, and a condition requiring immediate relief; and we agreed to offer the patient the choice of early tapping the abdomen or removing the ovary, but recommended the latter, notwithstanding the special risks arising from her pregnant condition and the peritonitis.

The patient and her husband consented to the major operation, which was admirably performed by Mr. Spencer Wells, on the 14th of August, in the presence of Dr. Junker, who administered bichloride of methylene, Professor Neugebauer (of Warsaw), Dr. Jagielski, and myself. The tumor, with its contents, and the fluid surrounding it, weighed altogether thirty-seven pounds. There was a general injection of the peritonæum, but no recent lymph. There was some omental adhesion, and one vessel there needed a ligature, which was left in the abdomen. The pedicle was secured by a clamp, and fixed outside the wound, which was united by interrupted suture. Mr. Wells was extremely careful to cleanse the peritoneal sac thoroughly of all ovarian fluid, by repeated sponging, before closing the wound.

The operation was performed a little after 6 p. m., and at 9.30 the patient had a pulse beating ninety-six in the minute, with a moist tongue, and a moderate amount of pain. A scruple of tincture of opium was injected, and fifteen minims given by the mouth, and citrate of potash given every three hours when thirsty, with ice occasionally. The following morning the skin was moist, the tongue clean, and the pulse 94. Barley-water only was administered as food, and the saline and opiate continued as required. In the evening the pulse rose to 100, and there was a good deal of pain in the course of the anterior crural nerve; but the countenance was good, and the patient cheerful. From this time I never found the pulse higher than 94, and four days after the operation it had fallen to 80.

On the 9th of August, five days after the operation, the sutures were removed by Mr. Wells, in the presence of Dr. Glover, who kindly took charge of the case a fortnight during my absence from town. A large portion of the wound was healed by the first intention.

The bowels were first relieved, after six days, by injection. Just prior to this, and coincidently with a return to solid food, there was a little vomiting. But the pulse remained quiet, and, under the gradual action of repeated enemas, the vomiting was relieved. Chicken and other simple animal food was given, and a small quantity of champagne occasionally.

On my return to town, twenty days after the operation, I removed the clamp, with the remnant of the pedicle. There were some flabby granulations at the upper end of the wound and at the site of the pedicle, which required a few applications of nitrate of silver; but the rest of the wound was well healed in about nineteen days.

On the twenty-eighth day she left London for Ramsgate, in good health, and arrived there with very little fatigue.

September 3d.—The patient's husband has just returned from Ramsgate, where he left her well, and on Ramsgate Pier, in a bath-chair.

This case proves:

1. That ovariectomy may be performed successfully when pregnancy has advanced to the fourth month, without occasioning abortion.
2. That recent peritonitis, consequent on a ruptured cyst and escape of its contents into the abdomen, is no bar to the operation.
3. That both these together will not preclude ovariectomy by the hands

of a skilful operator, when the patient is calm, trustful, and in all respects amenable to the directions of her medical advisers, as was the case in this instance.

Miscellaneous and Scientific Notes.

PROFESSOR BOECK, of Christiania, the well-known syphilographer, is at present visiting this city, and will, we understand, remain some months. On the evening of the 30th ult., Dr. Bumstead gave a reception at his house, in West Thirtieth Street, in honor of the distinguished gentleman, thus affording an opportunity for many of the profession to make his acquaintance. Professor Boeck's name is especially connected with the plan of treatment of syphilis by repeated inoculations, or syphilization. This plan Professor Boeck adopted in 1852, and has continued its use up to the present time.

If we have correctly apprehended the professor's views, he claims that the repetition of the inoculation every third day for three or four months, in a patient that has never been subjected to a mercurial treatment, is sufficient to cause the disappearance of the secondary symptoms, and to prevent their return, as well as the occurrence of the later and graver lesions. Patients who have been mercurialized do not give so favorable results—relapses being common among them. Professor Boeck does not, as did Auzias-Turenne, propose syphilization as a prophylactic of the disease, but only deems it applicable as a curative means after the declaration of consecutive symptoms. The curative power is attributed to the derivative or depurative effect of the prolonged suppuration caused by the very frequent inoculations. It should be mentioned that Professor Boeck, like most advocates of syphilization, does not accept the dualistic theory, and ignores many distinctions which the majority of the profession now deem to be fundamental.

This fact probably will account for the different results attained by the advocates and opponents of syphilization. Most of our readers will call to mind the discussion in the journals at the time, when Professor Boeck visited London some two years since, and then put in practice his method.

Since his arrival in New York, he has begun a series of experiments at the Charity Hospital, but, of course, sufficient time has not yet elapsed to draw therefrom any conclusion.

REMINISCENCES OF ROYALTY AND MEDICINE.—Mr. J. F. Clarke contributes to the *Medical Times and Gazette* an interesting sketch of the late Robert Keate, F. R. C. S., a man of considerable eminence in his time, and who was in very intimate personal relations with several of the crowned heads of England. The following extract is, we think, worthy reproducing in our columns :

Mr. Keate was the son of a man who had rendered himself conspicuous in the last century as one of the surgeons to St. George's Hospital. Robert was sent early to sea, and was assistant-surgeon of the vessel-of-war in which Prince William Henry, Duke of Clarence, was placed as a midshipman. They served together for some time, and the Duke of Clarence, who had received the kindest attention from Keate, promised him that if ever he (the Duke of Clarence) was King of England, Robert Keate should be his "body surgeon." This promise was fulfilled, and Keate was the confidential medical adviser of William IV. when he succeeded to the throne. At the time that he was appointed to this office, Keate was justly proud of his connection with royalty.

When a student, I was present at an operation which he performed on Mr. S., an eminent solicitor, who had then chambers in Clement's Inn. Mr. Keate had to amputate a diseased testicle for Mr. S., who gave him a very handsome fee. Keate at that time said rather exultingly, "Between you and royalty, Mr. S., I am fully occupied." Keate at that time thought that his connection with royalty was the basis of his future fortune. I was a mere boy at that time, but Keate's assistant was a young surgeon who has risen to distinction since. During the operation a jet of blood spouted from one of the arteries involved in the operation. The spotless duck continuations of the young surgeon unfortunately received a portion of this jet. Mr. — stopped in the middle of the operation to wipe off the red fluid from his trousers. There was no chloroform or ether in those days, and the patient was keenly alive to the pain which he suffered. Mr. S. said to me afterward, "I meant to have given that young man twenty guineas as Keate's assistant, but as he regarded the purity of his trousers as more important than my sufferings, I will not give him a farthing." If Mr. — honors me with the peru-

sal of this reminiscence, he cannot fail to recognize the accuracy of my statement. Twenty-five years afterward I again saw Mr. Keate. He was old, but not decrepit. His intellect was as shrewd as it had been so many years before, but his views with regard to his connection with royalty had lamentably changed. "Mr. Clarke," he said, "my connection with royalty has been my ruin. I have attended four sovereigns, and have been paid badly for my services. One of them, now deceased, owed me nine thousand guineas. The late King William IV. always paid me, but my journeys to Windsor to attend upon him and the queen, as a rule, were a grievous loss to me. I have on many occasions, obeying a summons to the royal residence, left a room full of patients anxious for my advice. The consequence eventually was, that my practice declined with respect to the public, and now that I am more than eighty years old I am a poor man. There is one exception, however, as regards my connection with royalty. That exception is the Duchess of Gloucester, who is my immediate neighbor. I visit her daily when she is in town, and the fees I receive in consequence from her form the staple of my income at present." I asked him if he would kindly furnish me with one or two anecdotes that I might make use of in the event of my surviving him. "Well," he said, "I have no objection to relate to you one or two characteristic anecdotes of the late king. I was summoned down to Windsor to see the queen. As it was 'urgent,' I immediately took post-horses, and in two hours was at the castle. I arrived so early that I was ushered into the breakfast-room of the royal couple. The queen was suffering from a pain in her knee, and she gave me a hint that the presence of the king might be dispensed with. Accordingly I said, addressing the king, 'Will your majesty be kind enough to leave the room?' 'Keate,' said he, 'I'm hanged if I go.' I looked at him for a moment; I then said quietly but firmly, 'Then, your majesty, I will be hanged if I stay.' When I got to the door of the apartment the king called me back. 'Keate,' said he, 'I believe you're right; I'll retire. You doctors can do any thing; but if a prime minister or a lord chancellor had presumed to order me out of the room, the next day I should have had to address his successor.'" "Once," said Mr. Keate, "the queen had determined to consult a homœopathic practitioner. 'I hate humbug,' said his majesty, 'and I won't allow any homœopath to prescribe for my wife unless you are present.' 'It is impossible, your majesty,' I said, 'that I can meet Dr. D——; there is nothing in common between us.' 'Well, then,' was the rejoinder, 'will you overhaul the prescription of the medicine which he orders for her, and see if she can safely take it?' I promised to do so, and

on the prescription being handed to me I said, 'Oh, your majesty, she may take it for seven years, and at the end of that time she will not have taken a grain of medicine.' Dr. D——, the prescriber, who had been smuggled up the back stairs, retired in the same way, fancying no doubt that he had made a convert of the queen. But in this he was mistaken." As a matter of history, this fact should be recorded, as I believe it is the only occasion on which a homœopathic practitioner has had the privilege of prescribing for a queen or a king of England.

At the annual meeting of the American Pharmaceutical Association, convened at Chicago, Sept. 7, 1869, Mr. Frederick Stearns, a member, was expelled for violating the ethics of the Association in the manufacture and advertising of an article under the name of "sweet quinine," which contains no quinine at all.

MANHATTAN EYE AND EAR HOSPITAL.—This new institution was opened at 233 East Thirty-fourth Street, between Second and Third Avenues, about the 10th of October. The Directors have purchased a large lot, but, not being ready to build at once, will occupy these premises for the present. The directors of the Hospital are Wm. B. Duncan, President, William Paton, Vice-President, C. R. Agnew, Secretary, Wm. Hannan Brown, Treasurer, S. M. Blake, David S. Egleston, Wm. Walter Phelps, Walter Edwards, Jr., James A. Roosevelt, E. G. Loring, Jr., D. B. St. J. Roosa, Charles Lanier, Geo. T. Strong, Wm. B. Crosby, D. E. Hawley, A. G. P. Dodge, Wm. E. Bliss, Directors.

Drs. C. R. Agnew, E. G. Loring, and D. B. St. J. Roosa, are the surgeons.

THE French Government has given its consent to the proposal, made by the Physician-General of the Prussian Navy, that a uniform flag of distress should be adopted by all civilized nations.

A PARAGRAPH is going the rounds of the newspapers stating that Dr. Beebee, of Chicago, in operating for a strangulated umbilical hernia, removed four feet and ten inches of intestine which had become gangrenous, and then secured the ends

of the intestine to the umbilical opening, so as to form an artificial anus. Three weeks subsequently, he closed the artificial anus by operation, and the patient made a perfect recovery.

DEATH FROM CHLOROFORM.—Through the kindness of our correspondent, Dr. F. Jacobs, of Delhi, N. Y., we are informed of the following case :

Mrs. Julia Maxwell, of Peake's Brook, N. Y., died on the 3d of September in the office of Dr. Peabody, a dentist of Delhi, under the following circumstances which are stated in the finding of the coroner's jury :

Deceased, attended by her husband, called upon Dr. Horatio N. Buckley, a physician, at the village of Delhi, and desired him to administer chloroform, preparatory to having a tooth extracted. Dr. Buckley advised the extraction of the tooth without the use of chloroform, but deceased insisted upon the use of chloroform or ether. After due inquiry and examination as to the state of her health, with a view to determining the propriety of administering it to her, it was administered to her by Dr. Buckley, after the most approved method, and with all the precautions and care, as appeared by the evidence of experienced medical practitioners accustomed to the administration of chloroform: That the patient yielded readily to the influence of the chloroform, and nothing indicating an unfavorable result appeared until after the teeth had been extracted, when the deceased suddenly went into a spasm or convulsion, and her limbs became rigid. She was immediately thereafter placed upon a lounge, in a reclining position, when the whole system relaxed, her pulse ceased, and after gasping a few times she suddenly died. Diligent but unsuccessful attempts were made to resuscitate her.

From the testimony adduced it appears that the chloroform used was of Squibbs's preparation. Our correspondent asks: What was the immediate cause of death. Nervous shock, or chloroform, or both combined? We think it quite unnecessary to expend any time in answering this question—but prefer again to use the sad result to point the moral we have so often urged in these columns. It is inexcusable to use chloroform when deaths from it are on record by the hundred—and the hundreds are swelling so rapidly that, if they were all reported, they would soon reach the thousands.

A DEATH from chloroform is reported in Pittsburg in the practice of Dr. John Dickson. The patient was about to submit to amputation of the leg, but died about one minute after the anæsthetic was administered.—*Medical and Surgical Reporter*.

A DEATH from the administration of chloroform took place at the North Staffordshire Infirmary on Saturday last. Prior to performing an important operation, Dr. Ross, the house-physician, administered to the patient from 15 to 20 drops of chloroform on a piece of lint, and the inhalation had gone on for three or four minutes, when the pulse suddenly stopped. The evidence at the inquest proved that all possible precautions had been taken, and a verdict exonerating the medical men from blame was accordingly returned. *Post-mortem* examination disclosed the presence of pus on the surface of the brain, and also a slight enlargement of the heart.—*The Lancet*.

NON-ADVISABLE TREATMENT OF OVARIAN DROPSY.—*L'Union Médicale*, of Aug. 24, 1869, states that Dr. Bezencenet mentioned, at a meeting of the Vaudian Medical Society, the case of a woman the subject of ovarian dropsy, and who had been several times tapped. Her husband, in a drunken fit, kicked her and ruptured the cyst. Peritonitis followed; the liquid was absorbed and the patient recovered.

EFFECTS OF CARBOLIC ACID ON THE ECONOMY, ON VEGETABLE PARASITES, AND DISEASES OF THE SKIN.—Dr. Neumann, of Vienna, has published in Dr. Pick's *Archiv für Dermatologie und Syphilis*, Part III. (1869), an excellent article on the above subject. The author experimented largely on animals and plants, and has used the acid in a certain number of cases, the principal of which he relates. Dr. Neumann sums up as follows: Carbolic acid is an energetic poison, which acts directly on the nervous system; its external or internal use may cause death. It acts three times more quickly when injected under the skin than when taken into the stomach. The acid is useful in scaly skin diseases, but especially in their early stage; it may be used as a caustic in chronic inflammations, and in parasitic affections. The acid, finally, possesses the power of arresting the germination of the lower vegetable organisms; but the solutions must, for this purpose, be stronger than has been advised—viz., 1 in 500 or 300, and not 1 in 1,000.

VILLATE'S LIQUOR.—Now that carbolic acid is in fashion, it is not out of place, as the reign of therapeutical agents is sometimes short-lived, to notice that M. Notta, of Lisieux (France), has lately strengthened his long advocacy of Villate's liquor, by the publication of fifty-four cases of fistulous tracts connected with carious and necrosed bone, cold abscesses, gunshot wounds, crushing of limbs, in which injections with this solution have been successful. The composition of Villate's liquor, originally used in veterinary practice, is as follows: Liquor of subacetate of lead, four ounces; crystallized sulphate of zinc, two ounces; crystallized sulphate of copper, two ounces; white wine vinegar, two pounds. It should be used prudently, as Lassaigue has shown that these substances react upon each other in such wise, that an excess of vinegar holds in suspension about an ounce and a half of sulphate of copper, a little more of sulphate of zinc, three-quarters of an ounce of acetate of copper, as much acetate of zinc, and nearly two ounces of insoluble sulphate of lead. Two cases of death have made surgeons cautious; but, with due precautions as to the quantities injected, the testimony of Velpeau and Nélaton will tend to render the use of the liquor more general.—*The Lancet*.

TREATMENT OF TAPEWORM.—Dr. Johann Rulle, in an "Inaugural Dissertation," gives the following results, derived from the administration of certain components of the extracts of male-fern to twenty-nine patients affected with *tænia*: 1. Not only the filicic acid, but also its decomposition-products, which are soluble in alcohol, will destroy tapeworms. 2. One must be very cautious in concluding that *tænia* are destroyed while in the intestinal canal, as the absence of the ova of tapeworm does not always indicate the non-existence of the parasites. 3. The precipitate, thrown down on the addition of hydrochloric acid to extract of male-fern, previously treated with ammonia, is more active than filicic acid. Out of nine cases in which the acid alone was administered, there were two only in which the worm was completely expelled, while in two the agent was quite useless. With the precipitate, on the other hand, the worm was wholly discharged in four instances, and a completely negative result followed but once. 4. The pure filicic acid was administered in twenty-four instances without a change of diet, and in fifteen where the diet was changed: in one of these cases, the result was imperfect; and in a second, failed altogether. The hydrochloric acid precipitate failed in three instances in which the diet was unchanged; in nine other instances, in which the diet was restricted, there was not a single miscarriage. Hence the great importance of attending

to the diet as a condition of success in the treatment of tape-worms. 5. Filicie acid, given in the form of pill, removes tæniæ with the greatest certainty when it is combined with castor-oil. This increase in the action of the agent is to be ascribed, not to the solubility of the acid in the castor-oil, but rather to the drastic action of the latter remedy. 6. Drastics assist the cure of tapeworm, not only because they bring away the parasite, but also by their favoring the deeper penetration of the anthelmintic into the intestinal canal. 7. The acid is best administered in the impure form in pills, sixteen of which, containing 9.6 *grammes* of the remedy, should be made to serve for four doses. With two of these doses, castor-oil is to be combined. This treatment should be preceded by a restriction in diet.—Schmidt's *Jahrbücher*, No. 2, 1869, and *Druggist*.

ARMY PERSONAL.—The following changes have taken place in the medical staff of the Army since the date of our last report, July 1, 1869.

Resigned.—Assistant-Surgeon H. S. Schell, Brevet-Lieutenant Colonel, to date July 10, 1869.

Died.—Surgeon J. B. Porter (retired), June 15, 1869, at Coventry, Tolland County, Conn. Cause of death unknown.

Assistant-Surgeon T. N. Turner, July 27, 1869, at Fort Wallace, Kansas, of acute gastritis.

There are now two vacancies in the grade of surgeon, and forty-two in that of assistant-surgeon; but these vacancies cannot be filled until Congress modifies the legislation of last winter, which forbade any further appointments or promotions in the staff corps.

THE *Medical Times and Gazette* of July 10th contains the following interesting summary of an elaborate paper, read by M. Legoyt, at a late meeting of the Paris Statistical Society, entitled "Certain Biostatic Immunities of the Jewish Race in Europe":

"The facts which are here collected, and which are nearly all derived from official sources, are almost unanimous in demonstrating that the Jewish race is distinguished from the other European races, in a biostatic point of view, by the following phenomena: 1. Its general fecundity is less. 2. So is it, at least as a general rule, with regard to its legitimate fecundity. 3. It is especially so in relation to its natural or illegitimate fecundity. 4. In an equal number of births, there

are fewer children born dead, which indicates that the Jewish woman passes through her period of gestation more favorably than the Christian woman. 5. But the most remarkable privilege of the Jews is, without contradiction, their relative low mortality, and that even when they are members of the lowest classes of society. This lesser mortality is not (and we cannot too much insist on this point) the natural consequence of a lesser fecundity, as, with an equal number of births, they count fewer deaths, and that by calculating on Halley's method—that is, in supposing the births equal to the deaths (taking place at the same ages)—it is found that they have a mean and probable life which is longer than that of the autochthonic races. It would not be correct to say that this difference in mortality is due to a large relative preponderance of adults, since in Prussia, which is the only country in which this portion of the population has been enumerated by age, there is found to be a greater number of children in it than in the Catholic and Evangelical population. 6. We have, moreover, seen that, as a consequence of this characteristic physical aptitude, the Jewish race becomes acclimatized everywhere, and propagates itself under every latitude. 7. Finally, we have shown that the Jews are possessed of a special aptitude enabling them to struggle against infected media, and protecting them against contagious diseases."

After discussing the various explanations of these immunities offered by different observers, M. Legoyt states that he believes the greater longevity of this race may be explained by the following considerations: 1. The Jews marry earlier than the Christians, and thus derive at an earlier age the advantages which statistics show are incident to the married state. Still, from their well-known prudence and circumspection, it is not to be supposed that they enter upon this until prepared to meet its exigencies. Among them hasty and rash marriages, which are alike hurtful to the health of the parents and children, are rare. 2. The fecundity being less, they can pay much more attention to the preservation of their children. 3. By reason of the small number of illegitimate children they have, they escape the exceptional mortality which sweeps away such children. 4. The Jew does not pursue any calling which demands very hard labor. He is neither an agriculturist, a laborer, mechanic, sailor, nor miner. Before all things, he is the shopkeeper, merchant, banker, artist, *savant*, man of letters, or public functionary. 5. The Mosaic law contains ordinances which, being purely hygienic, must exercise a favorable influence on the health—e. g., the verification of the condition of slaughtered animals, the frequency of ablution, the practice of circumcision, and the separation from the husband until a

week after menstruation, etc. 6. The strength of the family feeling among the Jews. It is only when it is absolutely impossible, and without distinction of rank, that a Jewish woman does not suckle her child. The children, too, are the objects of incessant and most vigilant care, which indeed is returned by the respect and solicitude which these manifest for their parents, especially when aged or infirm. This is probably one cause of the rarity of suicide among the Jews. 7. The sobriety of the Jews is incontestable. 8. Throughout the entire Jewish community, a warm feeling of charity for the indigent and miserable prevails. 9. The religious Jew is remarkable for his great serenity of mind, and his deep-seated faith in Providence and the high destinies of his race. The constancy, the *pérennité* of the Jewish temperament, is well reflected in his religious faith, which has remained immovable for so many ages. 10. The morality of the Jews, as deduced from criminal statistics, seems to be real, and is only an indication of those regular habits of life which exercise so great an influence on the duration of life.—*Medical Times and Gazette*.

THE degree of Doctor of Medicine from the Bellevue Hospital Medical College is officially recognized by the Royal College of Surgeons, of England.

THE CONTAGION OF CONSUMPTION.—M. Chauveau, Professor in the Lyons Veterinary School, continues perseveringly his researches on the contagiousness of tuberculosis. He has of late selected the intestinal surface as the field for his investigations, and through it by introducing tuberculous matter into the circulatory current he has produced, at will, general tubercle. The *Union Médicale* reports that he lately purchased four handsome heifers, and he tuberculized three of them by causing them to swallow 30 grammes each of tuberculous matter taken from the body of an old phthisical cow. The rapidity of the result was extraordinary. At the end of twenty days the first heifer had lost flesh to a surprising extent, its pulse was quick and full, and it coughed incessantly. At the end of fifty-two days it was killed, and it presented perfectly-marked tuberculous lesions situated especially about the mesentery and intestine. The mesenteric glands presented infiltration in so high a degree that many were of the size of the fist. Their total mass weighed 1,650 grammes. All the ganglia of the bronchi and mediastinum were enlarged, and the lung was full of crude tubercle. The other two heifers presented not less perfectly-marked alterations; while the fourth, to whom none of the tuberculous matter had been administered, remained intact and increased in flesh.

It is proved, therefore, that animals of the bovine species contract tuberculosis by digestive ingestion, just as they take carbuncle and cow-pock, as sheep take the rot, as the horse takes glanders, and as man takes small-pox. The human digestive tube constitutes an easy channel for tuberculous contagion. If bovine phthisis be identical with tuberculosis in the human species, there is, in the use of the flesh of tuberculous animals, a danger to which the poor are more especially exposed.—*Medical Press and Circular*.

“VENTILATE YOUR SEWERS! DO NOT TRAP!”—These words form the close of a very valuable address on the influence of sewer-vapor on health, delivered by Dr. Carpenter, of Croydon, before the Social Science Association, and we think the substance of it deserves the widest circulation.

It is within the memory of this generation that typhoid fever has been distinguished from other fevers, and has been traced to sewage. The earliest efforts of sanitarians were directed to the abolition of those collections of impurity in cesspools which formerly poisoned the earth, air, and water for our forefathers; and with the introduction of water-closets and of tubular drainage it was hoped that typhoid fever, at least, might be exterminated. Nevertheless, it did recur again and again, as at Croydon; because, says Dr. Carpenter:

In the early sanitary works which were carried out under the supervision and with the approval of the General Board of Health, and under the authority of the Public Health Act of 1848, *the consequences of sewer-gas* not being foreseen were not guarded against; no provisions were made to prevent its ascent into the house, or for exit into the open air before it could reach the inside of the dwelling. The rapid spread of luxurious habits among the people, the introduction of low fireplaces and register stoves, and the methods adopted to exclude draughts by having exceedingly close-fitting windows and doors, prevented the easy exit, and its baneful influence became manifest, often without the real cause being at that time at all suspected. *It often happens that the easiest way for air to enter the house is by the sewer.*

Then, with this state of things, “fever would recur; fever always the same in type, ‘the enteric or typhoid’ form, with rose-colored spots, often with abdominal complications, and always in those houses nearest to the top of the sewer (perhaps I should say generally), and farthest from the outfall.”

Nor is fever the only consequence of the entry of sewer-gas into dwelling-houses. “Many other disorders of the system,” says Dr. Carpenter, “have been directly traced to its influence—thus diarrhœa; dyspepsia in all its forms; palpitation of the heart; various forms of asthma (indeed, it may help to explain some of the vagaries of this curious disease); convulsions, especially in teething infants; headaches, both persistent and

intermittent. The evils which sometimes attend or follow upon the puerperal state, as milk-fever, abscesses in the breast, and phlegmasia dolens or white-leg, are frequently caused by it. I believe that these latter cases have been so associated, from observing their frequent occurrence in new houses before the plan now adopted in our district was carried out."

In houses pervaded by sewer-gas, invalids cannot recover their health, and delicate women are liable to faint away without assignable cause; not that "stink" is always complained of. A good, honest, unabashed "solid" stink, as Dr. Carpenter calls it—one that assails the nose without ceremony—is a fair, open enemy. He gives you warning, and you open your windows and let him out as you would a hornet. On the contrary, it is the "insidious almost imperceptible miasma" that is dangerous; and it is deserving of notice that many miasms do not stink *per se*, but only when, beginning to be ozonized and decomposed, they give rise to that which offends the nostrils. Dr. Carpenter illustrates this by reference to some emanations from a factory, which are often more offensive half a mile off than at the place of issue.

How, then, is this enemy so subtle and deadly to be dealt with? Most sanitarians have but one reply—put efficient traps and shut out the gas. Dr. Carpenter argues that this is useless by itself. The sewer-gases must obey the laws of Nature, and will find an exit at the highest point, and, unless one be provided for them, will enter houses by sinks, gully-holes, and closets. In the autumn of 1867, nearly 40 per cent. of the 160 children of the Warehousemen and Clerks' Schools on Russell Hill, and this spring about 30 per cent. of the inmates of the Female Orphan Asylum at Beddington, suffered from typhoid fever through the reflux of sewer-gas by the traps.

Trapping alone, then, Dr. Carpenter concludes, is delusive; for not only may the trap become dry, but the water that seals it absorbs gas from the sewer, and gives it off into the house, and, if there be any pressure, the trap is forced. Neither is it of any use to say that sewers *ought* to be self-cleansing, that they *ought* to form no deposit and give off no gas. What *ought* to be, and what actually is in this wicked world, are two very different things.

The real plan is to ventilate every sewer abundantly; to have a rapid and constant circulation of air through it; so that the sewer-gas may be diluted and decomposed as soon as formed. In order to effect this, in the first place every house-drain ought to be ventilated by carrying up the soil-pipe to the highest available point, so that it be far enough removed from windows and chimneys. Other ventilating shafts, straight and perpendicular, ought to be put to every pipe requiring a trap, so as

to protect the trap from the effects of pressure. Then, instead of closing the apertures into the street sewers, they ought to be as many and as open as possible. Stagnation in sewers, whether of solid, or liquid, or gas, must be avoided, and, considering that the sewers have a higher temperature than the air above, there is sure to be a rapid circulation through them if openings enough be provided; and public safety may be consulted by placing charcoal ventilators in the line of the up-currents.

We ask all sanitarians to weigh well what Dr. Carpenter teaches. Many a house will be saved a fit of illness if an outside vent be given to the gases which are now vainly attempted to be kept from rushing out of the "nursery sink." There are other measures which conduce to the same end, as the use of carbolic acid to limit decomposition, and the use of abundance of water, so as to check the evolution of gases, and hurry off the solid ingredients of sewage. Yet there is something dismal in the idea that, after forty years of sanitary talk and work, we must be content to let the vapors of our sewers escape into our streets, and that the ozone that ought to tint the cheeks of our town children; must be used up in decomposing the miasm of our sewage.—*Medical Times and Gazette*.

DR. FAVROT, celebrated as a ladies' doctor, has just died in Paris. The *Gaulois* asserts that so great was his reputation that ladies of high rank used to consult him masked. At Etretat, whither he was summoned for a consultation, he was beset by a little old man, the type of a *malade imaginaire*, who offered him a fabulous sum if he would live with him as his private physician. Dr. Favrot peremptorily refused the offer, but the little old man expressed such unfeigned despair at the prospect of being separated from him, that the doctor permitted him to follow him about in the capacity of *courrier*. Thus, wherever Dr. Favrot went, he appealed to "Jacques" to know if he had telegraphed for rooms at hotels, whether dinner had been duly ordered, etc.; in reply to which the little old man invariably pleaded the state of his health in excuse for the omission of his self-imposed duties. "Ah, you remember, Jacques, our agreement; each time you speak of your health, one guinea! No use talking to me about your will. Dr. Decat lost the fortune the Duke de Grammont Caderousse left to him, bequests from the sick to their physicians being illegal in France." The little old man instantly and invariably took out a guinea, in spite of which the doctor resorted to every possible stratagem to get rid of him. Once, while travelling, he met two of his colleagues; to them he related his misfor-

tune, and induced them to assist him in his dilemma. Accordingly, Dr. Favrot summoned them to consultation on his patient. They were unanimous in pronouncing his health perfect, and congratulated him on there being no further necessity for the continuance of his erratic life in company with Dr. Favrot. The little old man handed his new advisers their fees, and bowed them out of his room. The doctor, having on the previous evening taken leave of his patient, stole on foot from the hotel at an unearthly hour, in order to start by the earliest train. On the steps of the railway terminus sat, awaiting his arrival, the little old man. "Ah, you thought to escape me; but here I am, as ill as ever, and I have taken my ticket to accompany you."—*Every Saturday*.

AMPUTATION BY THE ÉCRASEUR.—M. Bardinet, of Limoges, in the *Bulletin Général Thérapeutique* for June 15th, recommends the *écraseur* as a means of performing amputation of the limbs, and states that he has in this way removed the leg. In operating, he first cuts through the skin, and then divides the tissues, in separate portions, by the *écraseur*, from without inward. Lastly, the bone is sawn through. M. Chassaignac, in a note to the editor of the *Bulletin*, says that, though he has used the *écraseur* successfully in two cases of amputation of the thigh, he does not consider this instrument suitable for amputations in general, inasmuch as it is not capable of ready application in all cases.

REMARKABLE CASE OF HAIRY NÆVUS.—The occurrence of moles covered with fine downy hair is by no means uncommon; but the most extraordinary example of this deformity we have ever seen was brought to our office a few days since by two Spanish gentlemen. The subject is a dark-complexioned, rather short Mexican-Indian woman, of about twenty-two years of age, and who, from the singular nature of her deformity, and the history that attaches to her mother, has received the name of Maria the Ourang-outang. It is stated that the mother of this woman belonged to the Indian tribe called the Quiché, inhabiting the province of Soconusco, on the Pacific coast of Mexico. At the age of twenty-five, she became a servant to a Spanish family, and ten years afterward disappeared in the mountains, where she remained for several years. A Spanish merchant, so goes the tale, travelling in that part of the country, met the Indian with a child, the subject of this notice, then five years of age, and, marking her peculiarity, purchased her. Both the mother and child were in a state of nudity, and the mother informed the gentleman that it was the offspring of an ourang-outang. The Spaniard

took the child home, and reared it to the age of fifteen, when she made her escape, and sought to gain her living by exhibiting herself. She was recaptured, and brought over to this country by the Spaniard who first endeavored to reclaim her. The girl, when stripped, is well proportioned, and presents precisely the appearance of having on a pair of bathing trousers, or *caleçons*, made of the skin of some animal. The hairy surface extends to about the level of the umbilicus in front, and the sixth dorsal vertebra behind, covers the buttocks, is replaced in front by the ordinary hair of the pubes, and extends about half-way down both thighs. The surface of the skin of the body generally is smooth and soft, but that of the hairy surface is blackish, coarse, and furfuraceous, reminding the observer somewhat of the skin of the back of a pig; the hair is short, black, and slightly curled. The margins of the hairy surface are sharply defined. Its sensibility is stated to be as acute as that of other parts of the body. The patient, who seemed to feel her condition acutely, has an agreeable expression of face, with full dark eye, and the ordinary Mexican type of countenance. The supposition that she owes her parentage on one side to an ourang-outang, we utterly deride; and, although she has been brought over to this country for the purposes of exhibition, we trust that so demoralizing a procedure will be prevented; yet it might be expedient to obtain a model of her for the Pathological Museum of the College of Surgeons.—*Lancet*.

Two men, whose physiological works have shed much lustre upon Germany, have just died at and beyond the ripe age of eighty years. Purkinje, whose researches are well known, has died at Prague; and Carus, who also devoted his powers to psychology, died at Dresden, much regretted by a large circle of friends and admirers.

A NEW SYSTEM OF DRAINAGE-TUBES.—In the *Lancet* of July 24, 1869, Mr. Robert Ellis describes a variety of drainage-tube which he has for a long time been using, and which appears to possess many advantages over the common tube with impervious sides.

These tubes consist simply of a closely-wound coil of wire, and resemble exactly the springs used by dentists for supporting artificial teeth, or those used by bell-hangers to preserve the due tension of their wires. They are simply spiral springs made of brass or copper wire, of different degrees of tenuity

and elasticity. In obstetrical practice I employ only the very fine hard brass wire, the finest I can procure; for I find this makes the best tubes for my special purposes. But for ordinary abscesses in other regions of the body, very fine copper wire may be used; it is softer, and exerts very little strain on the tender structures through which it has to pass. It is also finer than the other, and thus can be adapted to long, narrow sinuses, to every bend of which the tube will easily accommodate itself. It is a mere superstition that the copper or the brass does any mischief, as metallic substances, to the canal in which they lie, or constitutionally. I have used hundreds of these tubes without the smallest evidence of harm due to the metals of which they are composed. But, if it be thought desirable, they may be electro-gilded in a few minutes by plunging them in a hot solution of cyanide of gold, with the aid of a battery and a piece of gold foil.

The manufacture of the tubes is thus managed; and its extreme simplicity ought to enable every surgeon to make them without recourse to the instrument maker. I have always made my own, and thus exactly adapted them to the peculiarities of the individual case. If the surgeon possess a common lathe, they may be made, literally, in a minute. But they can also be made by hand, only they are less even and neat in appearance. I take (for the lathe) a number of common knitting-needles of different sizes, cut off the required length, square one end of each after tempering it down in the flame of a candle, and "centre" the other. This forms the tool or "mandrel," on which the wire is to be coiled. Being fixed in a chuck at one end, and adapted to the lathe-centre point at the other, it is ready for work. The wire is fastened to a pin in the chuck, and the lathe is put in motion: the slow motion is used. The wire, being firmly held in the hand, is drawn by the revolution of the axis upon itself, and thus coils itself automatically, and by a very few revolutions of the wheel the tube is finished. When made "by hand," the steel rod must be firmly fixed at one end in a vice, and the wire then slowly and carefully wound over it to the desired length. Very good tubes can be made in this way, though it is inferior to the other. By a strong pair of scissors or a wire nipper, the tubes can be cut to any size. In order to make them very flexible, it is better to draw them out a little at each end; the spirals are thus slightly separated from each other, and the walls of the tube by this means readily permit the percolation of pus or other fluids to go on through their sides. Care must be taken to bend in slightly the terminal coil of the tube, so that the point of the wire may not catch in the tissues through which it is passed.

Their method of application is as follows: For the uterine cervical canal it is necessary to fix the cervix by a tenaculum, and gently to pass up the tube mounted on a uterine sound; the free end then lies in the upper part of the vagina. It is useful to slip a morsel of vulcanized tube over this free extremity, so as to prevent its abrading the posterior vaginal wall. For an ordinary abscess they may be introduced on a probe or director, and often without any such assistance, by a spiral, coaxing sort of motion. They are retained easily *in situ* by tying a piece of silk over the free end, and fastening this to the skin by a strip of adhesive plaster. A loose, soft pad of cotton wool should then be placed over the tube, and it will be found to do its work with the greatest regularity until the abscess ceases to secrete any more pus.

As in the tracheotomy tubes, it is convenient to have a double tube in many cases, the inner one being a size or two smaller than the outer. This may be withdrawn and cleansed, and then replaced. They will require changing generally about once a fortnight, but I have seen no harm arise from a much longer stay.

The following note from Mr. Paget, concerning the advantages of these tubes, is a strong testimony in their favor:

"DEAR MR. ELLIS: I have now used your spiral-wire drainage-tubes in cases sufficient to prove to me that they have these following advantages over any other means of drainage that I have yet seen:

"They can be placed in sinuses of very small diameter, and with equal advantage, whether the sinus have one or more openings.

"Their bore is not diminished by bending them to any angle.

"They cannot be flattened or shut up by contraction of the orifice of the sinus.

"They can be inserted with very great facility; and can be worn for any length of time, in fit cases, without causing irritation.

"They are cleanly, and excite no decomposition in pus or other fluids. Sincerely yours, JAMES PAGET."

A NEW ANÆSTHETIC.—The Berlin correspondent of the *Lancet* writes:

One of the last novelties produced in the Berlin medical world is a new sedative, but which its discoverer, Dr. Liebrich, thinks may also prove to be an anæsthetic. This is Chloral, $\text{C}^2\text{Cl}^3\text{OH} + \text{H}^2\text{O}$, the peculiar nature of which is, that,

when treated by an alkali, it evolves chloroform. Dr. Liebrich proposes to avail himself of the alkalinity of the blood, and so, when administered subcutaneously or through the mouth, to produce the effect of chloroform. The experiments on rabbits were perfectly satisfactory, inasmuch as it produced a sound, death-like sleep for some eight or ten hours; and it appeared to have this advantage over chloroform and opium, viz., that the rabbits, on awakening, had none of the after-effects which usually attend the administration of those agents, but partook of food immediately and freely. On account of the uncertainty as to the proper dose, the experiments on the human subject have not been, as yet, quite so satisfactory. In one case, however, Professor Langen has proved to his satisfaction its wonderful sedative properties. A woman with fracture of the humerus, which threatened to become compound through her constant movements, she having strong delirium tremens when admitted, had taken, without its producing the slightest visible effect, seven grains of opium by the mouth, and three-quarters of a grain of morphia subcutaneously. Some time later, finding no result followed the measures, four grains of chloral were gradually given internally, and two grains subcutaneously. The patient gradually fell into a sound sleep, which lasted no less than fourteen hours, on awakening from which, she complained of no sickness or headache, and partook of food readily. It is extremely probable that you will hear more of this chloral, but at present it is but sparingly experimented with.

INFLUENCE OF CLIMATE ON VENEREAL DISEASES.—The evolution of syphilis, according to M. Lagneau, would be less rapid in cold than in warm countries, at Christiania than in France, in France than in the tropical regions. Gonorrhœa, very common in the United States, less so in China, would scarcely manifest itself among the natives of Algeria and the Levant, except those in contact with Europeans. Syphilitic maladies should be cured less rapidly in cold than in warm countries, and easily with the negroes. When two races come in contact in the same country, syphilis falls most severely on that which previously had been least subject to it. Individuals who contract syphilis in any country, would find its effects to amend in a warmer climate, and to be aggravated in a colder one. Syphilis, though universally diffused, would seem unable to establish itself permanently in Iceland, situated almost under the polar circle. According to Livingstone, it would be spontaneously cured in the interior of Southern Africa.—*Jour. de Med. et de Chir. Prat.*

LIGATURE OF THE ABDOMINAL AORTA.—On Friday, the 6th August, Dr. Patrick Heron Watson tied the aorta on account of secondary hæmorrhage from the common iliac artery after ligature. The iliac had been tied nine weeks before with catgut, under the most careful antiseptic precautions, and employing similar after-treatment. In spite of this, internal hæmorrhage set in, distending the iliac fossa and cavity of the pelvis, and escaping partially by the yet unhealed incision.

The artery at the point of ligature was found to be completely divided, but no trace of the catgut ligature was discovered. The diseased condition of the arterial tunics precluded the application of a ligature to the stump of the iliac. Dr. Watson, therefore, plugged the vessel with his forefinger, took off the Dubois aortic tourniquet, made an incision in the linea alba, opened the cavity of the abdomen, turned aside the bowels, cut through the mesentery, cleared the aorta half an inch above the bifurcation, and, carrying a ligature round it with a common aneurism-needle, secured the vessel with a common silk ligature. He also secured the external and internal iliac branches upon the affected side, so as to prevent recurrent bleeding.

The patient went on well for the first forty-eight hours, but after the sixtieth hour gradually sank, dying sixty-five hours after the operation—living, however, longer than any of the eight recorded cases, except the one of Monteiro, in which the patient survived the operation ten days.

The operation was undertaken merely to prevent inevitable death from hæmorrhage, which must have proved instantly fatal unless the ligature of the aorta had been performed. No further bleeding took place. The limbs regained their temperature after the operation, but before death the left limb (the side on which the iliac had been tied) had sunk in temperature some six degrees below the other, as high, at least, as the knee; above this the temperature was the same on both sides.¹—*Medical Press and Circular*.

¹ Sir A. Cooper first performed this operation in 1817. Since that date it has been done twice by Mr. James, of Exeter, and once by each of the following surgeons: Murray, at the Cape; Monteiro, at Rio; South, in London; Hunter McGuire, of Richmond; and Watson, Edinburgh.

THE INFLUENCE OF SNAKE-POISON.—Dr. J. Fayrer, Professor of Surgery in the Medical College of Bengal, has published the results of certain experiments made to ascertain the effects of snake-poison on large animals. The horses experimented on had been condemned to be destroyed, for a disease which, though incapacitating them from work, was not a disease which would reduce the strength of the animals to such an extent as to deprive the experiments of their value. The animals were a stud-bred mare, about 14.3 high, and aged twenty-seven years, suffering from partial paraplegia, and an Australian horse, 15.1, nine years old, a powerful animal, and in good condition, though also paraplegic. The mare succumbed in an hour and twenty minutes from the effects of the bite of a large cobra; while the stronger and younger horse survived the bite of a powerful, fresh, and full-grown daboia nearly twelve hours.

The difference in the effects of the poison of the daboia and cobra in these two cases is very remarkable, not only as to the duration of life in the animals bitten, but also in the pathological conditions before and after death. The mare bitten by the cobra was rapidly affected—staggered, became exhausted, and died in less than an hour and a half. The horse, bitten by the daboia, on the other hand, was affected very slowly, and seemed to doze his life away until just at the last, when a few unconscious plunges terminated his existence. It is to be noted, however, that the cobra bit more vigorously, forced his fangs deeper, and had to deal with a more feeble animal than the daboia, who bit a more powerful and healthy horse, and did not insert his teeth with such vigor as the cobra. The snakes were both fresh and full-grown, and their terrible power was strikingly illustrated by the death of these horses.—*Medical Press and Circular.*

THE intellectual activity of a certain class of lunatics is curiously illustrated in the report on the lunatic asylums in Ireland which has lately been printed and laid before Parliament. A man named Joseph Langfrey escaped from the Central Asylum with two other patients, none of the party being looked upon as lunatics by the medical officers, although confined there as criminal lunatics. Mr. Langfrey was the leader of the fugitives, and is described as being of an extraordinarily clever and ingenious mind. He could do things quite beyond what men in general can perform, and his cleverness was even exceeded by his versatility. He was a good shoemaker, a tailor, a weaver. He made from a scrap of iron a key by which he could open the door of his division. He put together

a wooden sewing-machine of his own contrivance, with which he made clothes for himself; and his mind just before his escape seemed so intent on improving this machine that there was little apprehension of his attempting to escape. His career, it is stated, before he came to the asylum was most extraordinary. He had been in the British army, in the French army, and in the French navy; and had been in British, German, and Russian prisons. He had a grammatical knowledge of French, knew something of German, and was completely self-taught; his age, although he had passed the various phases of existence above described, was only twenty-seven. He spoke well and reasonably, the great defect in his character being a fickleness of purpose. He had that rambling disposition that is never sated with travel and adventure; and if his principles were good and upright, he would in all probability have had a distinguished career in life. Langfrey was, in fact, not unlike one of Ouida's heroes.—*Every Saturday*.

THE EFFECT OF LIGHTNING-STROKE.—The *Medical Times and Gazette* of August 14, 1869, contains a most interesting and valuable lecture, by B. W. Richardson, giving the details of his researches with the large induction coil¹ of the Royal Polytechnic Institution. This coil, which is said to be the largest known in the world, has enabled Dr. Richardson to conduct a series of experiments on a scale hitherto unattempted. The portion of the lecture reprinted below has reference particularly to the effects of lightning-stroke on the body, and is well worth perusal.

THE EFFECT OF ELECTRICAL DISCHARGE ON THE COLOR OF BLOOD.

I have observed in all the animals that have been killed by the electrical discharge and by every form of the discharge that the blood is rendered darker in color; the same rule holds good if newly-drawn blood be subjected to the discharge—that is to say, if the blood be made a conductor. To show this, I fill a glass tube with blood newly drawn, and thoroughly well oxidized, so that it possesses a brilliant red arterial hue. Now, if through this blood I pass the discharge from the coil, there will be the change in color to which I have referred, as you will see. In so far as color is concerned, we have by this process transformed arterial into venous blood. If I go a step further, and drive this blood into a little reservoir of oxygen, and expose it freely to the gas, I restore the red color. Again,

¹ For a full description of this monster coil, see page 217 of this number of the Journal.

passing the blood through the tube connected with the coil, and subjecting it to the discharge, I make it once more venous in appearance, and this process I could repeat a considerable number of times, until, in fact—if means were taken for the due escape of the gases and water vapor evolved—the fluid were reduced to such consistency as to flow with difficulty, or until it underwent a kind of coagulation which would obstruct the current.

This experiment, simple as it is, has the most curious bearing on the whole question of the difference of color between venous and arterial blood. It shows that the electric discharge produces some chemical change which is afterward rectified by simple exposure of the blood to oxygen, and by the absorption of the gas. The same change of color of red blood is observed when the discharge passed through it is from the Leyden jar.

SECONDARY EFFECTS OF ELECTRICAL DISCHARGES ON ANIMAL BODIES.

When animals have been exposed to powerful electrical discharges, which have not been sufficient to kill, or when human beings have been exposed to lightning-shocks, and have not been killed, various secondary symptoms have been observed which deserve our notice. I would take the more prominent of these in detail.

Fever of Reaction.—In some instances where the body has been struck by lightning with the production of severe external injury, recovery from the prostration has been followed by severe reactionary fever and delirium. My friend Mr. Erasmus Wilson has favored me with an excellent illustration of this condition taken from the *American Journal of the Medical Sciences* for April, 1869, the reporter being Dr. William Holton, of New Harmony, Indiana. According to this report, a tree was struck with lightning on March 25, 1868. "From the tree the shaft of electric fluid darted through the wall of a shed, and lighted on the knot of hair at the back of a woman's head, attracted by the hair-pins with which the knot was fastened; it then passed on to an ear-ring; thence to the busk of her stays; next it flashed along the wires of her crinoline to the steel clasp of her garter, and ultimately burst through the heel of one of her boots. In its course it made a semi-spiral turn, striking the left ear above, reaching the right leg by the intervention of the crinoline wires, and issuing through the heel of her right boot. The break of the current was in each instance accompanied by a burn of the skin; the first of these burns, and the most severe, occurred on the scalp, where the hair was singed; the second occupied the

lobe of the ear; the third, the upper part of the chest, which presented a blistered surface three inches in diameter, with a broad erythematous areola beyond; the fourth, which was next in severity to that of the head, was a foot in length, and extended from the left side of the abdomen to the pubes; the fifth was situated on the patella immediately above the garter-buckle; and the sixth along the leg below the garter-buckle, the intermediate space having escaped. Her clothing was a little burned here and there, and the lower end of the steel busk and some of the crinoline-wires partially melted. After the shock, the woman, who was sixty-one years of age, and had been suffering previously from indigestion, vertigo, and numbness of her limbs, remained insensible for twenty minutes, uttering an occasional groan. When consciousness returned, she stated that she had felt nothing at the time of the accident; but, on the recovery of her senses, she complained of nausea and oppression about the chest, which were relieved by vomiting. Her skin at this time was cold and clammy from perspiration, and her pulse extremely weak. Subsequently she was attacked with fever, accompanied with delirium, and not until the end of ten weeks was she reported as having recovered her usual strength, the burns being at the same time healed. At this time it is stated that 'she is quite cheerful, except when left alone, when she is disposed to sleep too much; a feeling of great lassitude announces to her the approach of a thunder-storm before its coming is perceived by others.' "The case," adds Mr. Wilson, "is one of deep interest in its illustration of the influence of nervous shock, and its phenomena are most suggestive; for example, a concussion of the nervous system, the loss of consciousness, the sickness of the stomach, the oppression of the lungs, the prostration of the heart, the reactionary fever, and last, but not least, the morbid sensitiveness of the nervous system to electrical impressions, enduring for a time, and probably for life. Is not this the oft-told tale of many of our fevers?"

Apoplexy.—Symptoms of a distinctly apoplectic character have been observed in the lower animals after the electrical shock, and also after lightning-stroke in the human subject. I am indebted to my friend Mr. Streeter for reference to a purely typical case of this nature, reported by Dr. Alexander Macaulay in the *Transactions* of the Medical and Clinical Society of Edinburgh for the year 1824. The facts narrated were observed by Macaulay on the Coldstream East Indiaman, near the line, on April 16, 1812. The vessel was struck with two shocks of lightning at an interval of about fifteen seconds. The effect was terrible. The main topgallant-sail was burned, the main topgallant-mast was shivered into splinters, the main topmast

shivered, and pieces were driven out of the main-mast six feet long. Marks of fusion appeared on a brass pulley at the top of the mast. A Lascar was killed instantaneously, and his body showed no external mark. Another Lascar was rendered insensible, but recovered in a quarter of an hour, and three Englishmen were severely injured. It was in one of these Englishmen the typical apoplexy was developed. The condition of this man was as follows: His countenance was livid and bloated, his whole body was covered with a cold clammy sweat, his breathing was oppressed and stertorous, his pulse strong and full, and the powers of sense and voluntary motion suspended. The stupor and other urgent symptoms were removed by the abstraction of blood to the extent of fifty ounces, and the man recovered. During recovery he had much pain in the region of the liver.

In these apoplectic cases we see the effect, in its fullest extent, of a discharge of quantity and low tension. Between this shock by lightning and what is called sun-stroke there is a distinction, I had almost said, without a difference.

Convulsions and Epilepsy.—Convulsive actions and epileptic or epileptiform seizures have been recorded as following upon lightning-stroke. In the accident above mentioned two men who also were struck exhibited after-symptoms of this kind. One of these men had repeated and severe attacks of epilepsy, which were preceded by the idea of a figure coming toward him; the man was freely bled, and in two days the seizures ceased altogether, and did not return. It was, however, observed of him afterward that, when he took an excess of spirits, the intoxication produced was loud and turbulent, unlike his former manner under similar circumstances. In the second case, a soldier of the St. Helena Regiment was seized after the shock with epilepsy, without any peculiarity of the symptoms, and the seizures recurred for several weeks. It was considered they were prevented by venesection. This patient was said to have been subject to epilepsy, but during his voyage he had shown no sign of the disease previous to the storm and the accident to which he was subjected by the lightning. Dr. Macaulay concludes his report of these cases by remarking that two of the patients complained of pain in the region of the liver.

Paralysis.—Paralysis has been observed to follow both electrical and lightning stroke. I have twice seen a temporary paralysis in animals upon receiving the discharge, and it is worthy of remark that, in these cases, as well as in cases where the shock has occurred from the lightning-stroke, the hinder limbs have been those most distinctly affected. This does not seem to be due to any localization of the shock, for it may

occur when the discharge is not directed through the limbs at all, but through the head and the spinal column. It is as though the lower part of the cord had received a concussion. For a time there is an equal paralysis of sensation and motion, and during recovery sensation returns first. Of the mode in which the electricity acts in producing the paralytic condition I am unable to speak; indeed, I could not, and cannot, by any method so pass the current as to insure paralysis, nor could I, in any case where an animal was struck insensible by shock, predicate whether paralysis would or would not follow. A shock passed directly through a limb will produce a temporary rigidity of limb, and for some time an incapacity for movement; but this is not paralysis in the strict sense of the word, nor is it the condition of true paralysis I have spoken of above.

It is an equally interesting and curious fact that paralysis, as a preëxisting disease, has been cured by lightning-stroke. A good illustration of this kind was reported in the year 1803 to the great American physician, Benjamin Rush, by Dr. Thomas Humphreys. In this case a lady, after severe chill from long exposure to intense cold, suffered from paralysis of both arms, which condition lasted three years. She was often electrified during this period, but without benefit. In July, after rising from the dinner-table about three P. M., just as she had reached the side of her bed, she fell across the bed, to all appearance dead; but she gradually recovered, and after recovery suddenly discovered that she had entirely regained the use of her paralyzed hands. Twenty years after this event she remained well, having had no return of the paralysis.

Catalepsy.—The phenomena of catalepsy have been observed after lightning-shock. I am indebted to my friend Mr. Richard Fryer, of Pickwell, for having informed me of a case of this kind; and to my friend Dr. Jackson, of Somerby, for having collected the facts, which are as follows: A man, named Thomas Sharpe, was driving across Grinsthorpe Park, in a cart, during a severe storm. The cart was struck by lightning, and two dogs in it were also struck, one being killed at once, the other blinded. The horse was struck, not fatally at the time, but so severely that he died from what was called general wasting and weakness—a kind of general paralysis, in fact—within a week after the accident. The cart was much damaged. It is difficult to determine whether Sharpe himself was rendered unconscious, for, although he was struck too, he managed to get to his home. He was extremely ill, was confined to his bed many weeks, became greatly emaciated, could not take food, and at last sank into the condition of catalepsy. In this state he was thought to be dead, was laid out by two women, and was

tolled for in due order. He stated to Mr. Fryer that he fancied he knew all that was going on, but that he was quite unable to move until he heard voices talking about his death, and distinguished the knell of the passing bell. Then, under the impression that he should certainly be buried alive, he made a great effort to move, and succeeded in moving one of his thumbs. This act attracting the attention of the women who were laying him out, the process was stopped, he was treated as one still alive, and he gradually recovered.¹

During his convalescence Sharpe was annoyed by a strong smell of sulphur, which seemed to come from his own body. The symptom has been observed in other cases after lightning-shock, and is detailed with much care by Gaultier Claubry, who experienced it himself, while recovering from lightning-shock, for several days. Claubry calls the odor that of "*gaz hydrogène sulfuré*," also hepatic odor and taste. He says it exhaled from the secretions of the alimentary canal, the skin, and the urine, and was almost intolerable.

Blindness.—Blindness has been observed to follow both electrical shock and lightning-shock. This fact was observed first by Priestley, after a discharge from sixty-two square feet of coated glass through a dog of the size of a common cur. The animal was struck through the head, all his limbs were extended, he fell backward, and lay without any motion or sign of life for about a minute. Then followed convulsions, but not very violent, in all his limbs, and after that a convulsive respiration, attended with a small rattling in the throat. In about four minutes from the time that he was struck he was able to move, though he did not offer to walk till about half an hour after, in all which time he kept discharging a great quantity of saliva, and there was also "a great flux of rheum" from his eyes, on which he kept putting his feet, though in other respects he lay perfectly listless. He never opened his eyes all the evening in which he was struck, and the next morning he appeared to be quite blind, though seemingly well in every other respect.

Having dispatched the dog by shooting him through the hinder part of his head, Priestley examined one of his eyes (both of which had a uniform bluish cast, like a film over the pupil), and found all the three humors perfectly transparent,

¹ Since the delivery of this lecture, Dr. Winn and several other correspondents have directed my attention to the narrative in the "Diary of a late Physician" of a similar case to that of Thomas Sharpe. I have since seen the distinguished and learned author of the "Diary," Mr. Warren, D. C. L., F. R. S., and am permitted to state from himself that his narrative was really founded on a fact related to him by Mrs. Warren.

and, as far as could be judged, in their right state; but the *cornea* was throughout white and opaque, like a bit of gristle, and remarkably thick.

Before this experiment, Priestley had imagined, he says, "that animals struck by lightning had probably a *gutta serena*, on account of the concussion which is seemingly given to the nervous system by the electric shock; but this case was evidently an inflammation occasioned by the explosion being made so near the eyes, terminating in a species of the *albugo*. One of the eyes of this dog was affected a little more than the other, owing probably to the stroke being made a little nearer to one eye than to the other." Priestley intended to direct the stroke about an inch above the eyes.

The suspicion of the nature of the blindness thus expressed by the great physicist is, I have no doubt, essentially correct; for this change of structure of the cornea can be produced on the eye of an animal recently dead. We will do the experiment on the eyes of a recently-killed sheep with the primary discharge from our coil. When, now, we examine the eye, we find the change to opacity is instantaneously produced; and Priestley, though right in the main, erred, I think, in tracing the change to any after inflammatory process. The change seems to me to consist in the coagulation of the plasma of the cornea, and to take place between the conjunctiva and the middle elastic coat. Beyond this injury, I can find, in these cases, no other changes. The aqueous humor, the crystalline lens, and the vitreous humor, are uninjured.

There is another form of blindness occurring occasionally in animals after shocks of great tension, in which there is no visible cause for the phenomenon. The eye itself seems perfect in all its parts, nor does any visible lesion occur in the optic nerve or the brain. I can attribute the injury, therefore, to nothing more definite than to nervous shock.

In some of our experiments, where the animals have been killed, we have observed one pupil closely contracted, the other widely dilated. In these instances the shock has passed on the side of the head on which the pupil is contracted.

Blindness from lightning-stroke in the human subject is so rare that it has been but little investigated. Mr. Bader, whose researches on the pathology of the eyeball we know so well, tells me he has never dissected an eye that has been destroyed by lightning, but remembers one case in which suppurative inflammation of the choroid and retina set in, in the region of the yellow cyst, from the accident, as the patient thought, of looking into a flash of lightning. Mr. Bader saw another case in which the same disease came on in an eye suddenly exposed to sunlight while taking telescopic observations;

and, lastly, he saw a third case of the same disease occurring in both eyes, and attributed to long exposure of the organs to the blaze of a furnace. These cases, the connection of which will be at once seen, were probably due to intense exposure to the excitation of light, for in the case where the patient looked at the lightning-flash there is no history of shock.

Taking all the facts I can collect in respect to blindness after lightning-stroke, I infer, for the present, two conditions: 1. A direct change in the structure of the cornea; and, 2. Nervous shock without visible change in the organ. To these may be added, as supplementary, inflammation of the choroid and retina due to the excitation of light from the lightning-flash without shock.

In my next lecture I shall consider the change of the internal organs after death by lightning and electricity.

THE INDUCTION-COIL AT THE POLYTECHNIC.—Of all Professor Pepper's triumphs that to be now seen is most interesting to our profession. He has produced the most powerful induction-coil ever seen, and the results must be of lasting importance. Faraday could scarcely have anticipated the perfection of mechanism which has thus made his discovery of so much greater value than was till just lately believed. Till now a coil fifteen inches long and four in diameter was called large. That would light up vacuum tubes, and give a spark of six or seven inches. Professor Pepper's new-coil is a "monster," nine feet ten inches long and two in diameter. It gives a spark of twenty-nine inches, perforates plate-glass five inches thick, and charges a Leyden battery, forty feet square, by three breaks of contact.

Some difficulties had to be overcome to make the monster manageable—for instance, at first the contact-breakers were destroyed in a moment on the first trial. But all has been overcome, and Pepper's monster may be seen in wonderful and terrible action, and will not only be a source of amusement to the many, but will, we cannot doubt, hasten many important discoveries.

The core of this new coil is of soft iron, formed by a bundle of straight wires, each five feet in length and .0625 of an inch in diameter. The diameter of the combined wires is four inches, and the weight of the core is 123 lbs. The primary coil is of copper-wire of the highest conductivity, and weighs 145 lbs. The diameter of this wire is .0925 of an inch, and its length is 3,770 yards. It is wound round with cotton, and makes 6,000 revolutions around the iron core. The secondary wire is 150 miles in length, and .015 of an inch in diameter. It is covered with silk, and is wound into an outer coil 50

inches in length. The primary wire is insulated from the secondary by an ebonite tube half an inch in thickness, and the whole coil is enclosed in another ebonite tube and mounted upon substantial supports also covered with ebonite. The galvanic current for the primary coil is furnished by a Bunsen's battery of forty cells.—*Medical Press and Circular*.

PHYSICIANS IN BOSTON.—The Boston Directory for 1869, which has just been issued, contains the names of 303 physicians, members of the Massachusetts Medical Society; 40 members of the Massachusetts Homœopathic Medical Society; 11 members of the Massachusetts Eclectic Medical Society; 76 who attire themselves in female garments, and 200 "other physicians." One of this latter class delights himself in the title of "analytic physician;" another practises "nature-pathy;" another goes it upon the "equalizing" principle—this may be supposed to refer to pockets—another strengthens weak finances by the "Swedish movement-cure,"—the word movement probably indicating frequent change of residence—another is a "magnethist," and still another is satisfied to proclaim his merits in good old plain English as a "bone-setter." Many of the apothecaries also transcend the legitimate limits of their vocation and furnish advice and drugs at a slight advance upon the regular charges for the medicines furnished. The city, including the newly-acquired districts of Roxbury and Dorchester End—none of the practitioners of the healing art referred to in the above statistics reside in these districts—contains about 230,000 inhabitants. Probably one-half of this number receive gratuitous medical advice, one-half of the remainder employ homœopaths, eclectics, and others outside of the pale of the regular profession, leaving the latter less than 200 paying persons to each physician.

It requires no very profound study to convince any one that this city is not a very inviting field of labor to the young practitioner; nevertheless, young gentlemen of common-sense, good education, patience, and perseverance, will, *after the first ten years of their residence here*, obtain a very satisfactory amount of business.—*Cor. California Medical Gazette*.

A CORRESPONDENT of *The Druggist* suggests that the labels of all bottles and packages containing poisons have printed or written on them a simple description of the antidote and the manner of using it. Undoubtedly, if this suggestion were carried into practice, it would be the means of saving many a life that is lost before a medical man can reach the patient. On the other hand, one of our non-professional cotemporaries jocu-

larly suggests that, as there are no known antidotes for some poisons, the only direction needed in such cases would be, "If taken, take the patient to the undertaker."

THE following letter, which we find in the *Dental Cosmos*, from Dr. Sansom, of London, concerning Dr. McQuillen's observations on the action of anæsthetics on the blood, printed in our July number, will interest our readers. Dr. Sansom is an earnest investigator and an acknowledged authority on the subject of which he writes. His work on "Chloroform, its Action and Administration," is too well known to call from us any expression of its merits:

29 DUNCAN TERRACE, CITY ROAD, }
LONDON, July 31, 1869. }

DR. J. H. MCQUILLEN:

MY DEAR SIR: The other day, in glancing over the journals at our College of Surgeons, I noticed a paper written by you which interested me very much; it was quoted into a New York medical journal. The paper contained observations by yourself upon the action of anæsthetics upon the blood-corpuscles. I believe your conclusion was, that anæsthetic agents have no appreciable effect on the integrity of the blood-corpuscles. I fancy you imagined that our views might be at variance, but I assure you we have much in common, and I can corroborate you in most of your deductions. My memory is unassisted, so I may be wrong in my conception of the general tenor of your remarks, but I believe that—1. Your estimate of the action of strong chloroform upon the blood-corpuscles is about identical with my own. 2. I believe that you have not found the more feeble influences of chloroform produce such results as I have noted. I think that depends on the difference in the mode of our investigation. I placed a single drop of frog's blood upon a glass slide; exposed it, for periods varying, in different experiments, from two seconds to two minutes, to the vapor proceeding from an open bottle of chloroform, then covered it by a glass film, and immediately examined it by the microscope. The appearances are seen in Figs. 2, 3, and 4 of the plate which I forward, with a pamphlet, of which I beg your acceptance. I find that those corpuscles with which the vapor does not come in direct contact are uninfluenced. Results, therefore, will absolutely vary with the thickness of the stratum of blood used. I am fully prepared to acknowledge that the appearances may not be the result of the direct action of the anæsthetic; the influences (*a*) of drying (*b*) of the air itself may, with a considerable probability,

account for many of the changes. 3. I perfectly agree with you, that in the circulating blood no change of form can be noticed, but there is frequently manifested a tendency of the corpuscles to aggregate together.

I fancy you have (and that quite probably with perfect justice, from my mode of expressing it) a little misapprehended my course of argument upon the action of anæsthetics on the blood. Probably you believed my observations on the blood-corpuscles the cardinal fact on which I based my theory of narcotism from suspended corpuscle-oxygenation. It was, in my mind, quite secondary.

My argument would, in my own mind, stand thus :

A. We have no evidence that in anæsthesia there is any direct union between the anæsthetic and nerve-matter. Evidence tends rather to the contrary conclusion.

B. We have no evidence that in anæsthesia there is (as some have held) any impaired *oxidation of nerve-matter*. We have no evidence whatever that the normal functions of nerve are due to any oxidation of its substance, much less that the absence of these functions is due to the impairment of oxidation.

C. We have positive data to this effect: that the suspension of supply of arterial blood can impair nerve-function, and that impairment of the quality of the blood (suspension of oxidation) will impair nerve-function.

D. We find that anæsthetics cause contraction of the channels of arterial blood-supply. Conversely (as in narcotism from cold), where there is adequate contraction of arterial vessels, there is narcotism.

E. We find that anæsthetics added to the blood impair its powers of aëration (see Harley's Experiments). How do they effect this impairment? The only positive data on which we can base any answer are—(1) the fact that anæsthetics do, when added to the blood, impair its form and integrity; we can argue, *a fortiori*, from the observed effects of the more concentrated influences to the possible effects of the feebler ones; (2), or, that these agents have a chemical action on the proteinous matter of the blood-corpuscle.

I contend that in D and E we have a sufficient explanation of the phenomena of narcosis. I am deeply gratified, my dear sir, with your kindly expressions toward myself. I thank you for the observations you have made, which I consider of great value.

I am yours, very truly,

A. ERNEST SANSOM, M. D.

TRIBULATIONS OF AN EDITOR.—The *Galveston Medical Journal* for August has just reached us. The editor and proprietor, Dr. Dowell, in apologizing for the non-appearance of the journal since April last, says, that he has paid out ten thousand dollars cash since the publication was started four years ago, and as yet he has received "but little in return." He therefore ventures to request his subscribers to pay up, and urges the abundant crops of the season as a reason for this apparently much-needed liquidation. He remarks :

The difficulties in publishing a medical periodical are not appreciated by our people. In the first place, there are not type enough in any office in the State to keep thirty-two pages standing over a few days, and often only a few hours, giving the proof-reader a very short time to correct the proofs, and frequently the editor does not see them. Some of the numbers we have had printed in three different offices, and then we did not get them in time.

A VISIT TO NÉLATON.—Some recent numbers of the *Journal de Médecine de Bruxelles* contain a communication from M. Delstanche, of that city, on a visit which he paid to M. Nélaton last autumn. Although the article enters into a familiarity of detail which we should suppose will be scarcely acceptable to its object, some of the opinions recorded are of sufficient interest to be reproduced as being those of a man so much esteemed among us as is M. Nélaton. The writer commenced his exploration speedily enough, for, while waiting his turn in the great surgeon's *salon*, he so ingratiated himself with a lady he found there, the subject of ovarian disease, that he obtained her permission to be present at the consultation. "I was much surprised," he says, "to hear M. Nélaton say that had this been a unilocular cyst he would have first tried iodine injection, seeing how little success has attended this treatment in the hands of others, including Krassowsky, the most recent writer on the subject. He replied that he had perused Krassowsky's work, but that surgeon, in fact, had operated in a chance manner, without observing any rule, while he himself followed an indication which was wellnigh certain." After having injected a large number of these cysts with very various results, he came to the conclusion that when the fluid is sticky and thready between the fingers, like mucus or pus, the iodine injection has no chance of success, while when it does not give rise to filaments, but resembles serum or urine, and whatever its color may be—pale, deep, or sanguinolent—there is the same chance of cure as in hydrocele. "I agree," he

added, "that this is a somewhat empirical conclusion, but empirical means are not always to be disdained; and, moreover, the rule does not apply only to small and recent cysts, but has been found to hold good in those which date back several years, and have attained an enormous size. For the success of the procedure a trocar of not less than three millimetres in volume, and from twenty to twenty-five centimetres in length, is essential." In multilocular cysts, whatever may be their contents, M. Nélaton rejects injection.

As to ovariectomy, he observed that the fact of his having imported it into France had been contested, but he had ample proof of that. How far we may trust academies was seen by the general cry of reprobation which was raised when the operation was first mentioned at the Academy of Medicine, and when they could not find terms harsh enough to stigmatize this *savagerie*. Soon afterward he saw it practised in Paris itself, and now it becomes a question of who has had the honor of naturalizing it. M. Nélaton has himself performed it sixteen times, and nine times with success; and if his success has not been greater, it must be recollected, he observed, that he commenced amidst the most vehement opposition, and could only then venture upon cases reduced to the last extremity. Even in these desperate circumstances he succeeded in more than one-half of his cases. Although one of the foremost to testify to the ability of the English surgeons, he maintains that much of their great success depends upon the fact that they operate in good time before the development of the cyst and repeated punctures have produced adhesions and damaged the constitution of the patients. Such is preëminently the practice of Spencer Wells; and now that the French surgeons, like M. Nélaton's pupils, MM. Péan and Labbé, are beginning to follow in the same line, their success is not less striking. In explaining the poor results that had hitherto followed the performance of the operation in Belgium, M. Nélaton observed that this might depend on various causes, such as the condition of the patient or that of the locality, as well as the mode of procedure. Of all operations, ovariectomy is the one in which we meet with the most unexpected occurrences; and to execute it well it is necessary to have often seen it done and to have practised it one's self. It is by practice that simplification of its procedure has been attained, and that we have come to recognize the importance of things once deemed only secondary. But failure does not take place so much from the want of skill in the operator as from the constitution of the subjects and the vitiated atmosphere of hospitals, death almost always taking place when the operation is performed within their walls.

M. Delstanche had the opportunity of witnessing an ovari-

otomy and of examining four patients on whom it had been performed, but we have not space for various other of M. Nélaton's observations on this subject. Numerous other topics were discussed, and, among these, the circumstances upon which the efficacy of mineral waters depends. After alluding to the influence exercised by change of air, regimen, diversion of thought, etc., M. Nélaton observed :

“I think that generally, and whatever the place resorted to may be, these pretended auxiliaries act more efficaciously than do the waters themselves. Not unfrequently, and that in cases in which they seem best indicated, I have seen patients return, at the end of the course of waters which they have followed, suffering more than when they went to them. But the doctors arrange all this in a very agreeable manner. This reminds me of what the emperor said to me lately. We had advised the Plombières waters; he thought little of them, and it was only with great trouble we got him to decide. Our only object was to get him away from the Tuileries, where there is for him neither truce nor peace. His health was suffering from this, and at last he left. On his return I hastened to inquire as to his state of health and the effects of the *villégiature*. ‘Oh!’ he replied, smiling, ‘these doctors are charming fellows. After some days I found myself worse, suffering in the loins and limbs; and when I sent for them and informed them of what I felt, they at once began congratulating me, declaring that what I experienced was the effect of the waters, and was of good augury. I therefore resigned myself to persevere in the treatment, but the pains, in place of diminishing, increased, and I again sent for them, detailing all that I suffered, only again to receive their congratulations, and the assurance that this was an effect of the water, which I should hereafter recognize. Whenever I ventured an observation, my mouth was always stopped by this unanswerable argument. Really these doctors are nice fellows.’ In relating the circumstance, M. Nélaton laughed heartily. ‘He does not seem to believe much more in medicine than his uncle did,’ I observed. ‘Indeed, he is not much more its partisan,’ he replied.”

Speaking of the prince imperial's illness, M. Nélaton observed that there had been a deep-seated abscess under the *gluteus minimus*, which was entirely raised up by it. “The hip-joint was not compromised, but the case was none the less dangerous, and I trembled for the life of that child. It was bruited about that there was caries, but this happily was not the case; and now the cure is quite complete, the movements of the limb being in no wise less assured or less free than that of the opposite side.” M. Nélaton gave his visitor a particular

account of his successful mode of treating coxalgia before the head of the bone has left the cavity. It consists simply in the effectual and careful employment of compression by means of a bandage and a large quantity of wadding, so that effectual and elastic compression is exerted on the joint in every direction without the movements of the child being impeded.

Alluding to his successful career, M. Nélaton remarked :

"The position of a physician who is in the possession of a certain repute in a large town, and especially in Paris, rapidly leads to a fortune, for he is sought for not only in Paris, but by all France, and indeed by entire Europe. As regards myself" (he added, with modesty), "I have been very lucky ; for most of the surgeons with whom I should have had to divide my gains died young, as Sanson, Bérard, Blandin, and others, so that I was left almost without any rivals."

In answer to the observation of his friend that homœopathy and the other variable doctrines of the day do not interfere with the surgeon's practice as they do with that of the physician, he observed :

"It is true that homœopathy does not reduce fractures or operate for cataract, but nevertheless it yet finds means of getting at us. Take cataract, for example. The surgeon operates, but sight is not at once restored, remaining feeble and uncertain, especially during the first fortnight. Well, that is just the moment spied out by the homœopathist, who, getting hold of the patient, promises to complete the cure commenced by the surgeon ; and as at last the vision, with time, is always more or less improved, he attributes, and has attributed to him, his share of success."—*Med. Times and Gaz.*

PROPAGATION OF TUBERCLE.—M. Villemin, the author of the first researches on this subject, communicated to the Academy of Medicine, on April 13th, a memoir, in which he gives the results of various series of experiments by the inoculation, either by means of hypodermic injection, or of an impregnated thread—1, of the liquid matters expectorated by phthysical persons ; 2, of the dried materials of their sputum ; 3, of their sweat. Except in the last case, in which the experiments are not numerous, he has in most instances developed phthisis in the rabbits on which he has operated. He concludes : 1. That tubercle and the sputa of phthysical patients have the behavior of virulent substances ; they reproduce tuberculosis by inoculation, and by absorption by the digestive and respiratory tubes ; the sputa dried, and not recent, do not have that property ; 2. That phthisis must be transmissible ; and its propagation must be expected to take place by the products emanating from diseased persons.—*British Medical Journal.*

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VOL. X.]

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[No. 3.

Original Communications.

ART. I.—*A Review of the "Report on the Epidemic of Yellow Fever which prevailed at Wilmington, N. C., in the Fall of 1862. By WILLIAM T. WRAGG, M. D., of Charleston, S. C." By WILLIAM GEORGE THOMAS, M. D., Wilmington, N. C.*

DIFFERENT opinions are held upon almost every subject not susceptible of positive demonstration, and opposite conclusions are drawn from the same facts and circumstances, just as they have been seen by the narrator, or related to him by others. The influence of preconceived opinions and adopted theories often give direction to the judgment without a consciousness of the facts.

When we institute inquiries into the causes of disease, a labor confessedly difficult at all times, we should be well assured that our records, as well as those of others which we assume, are free from doubt and uncertainty, to say nothing of positive error, and that we do not suffer any thing but truth to lead us to a conclusion. Much of the controversy upon mooted questions in medical science and practice is found to rest upon

observations which have not passed seven times through the crucible of severe investigation, so that, when thus tested, they may not be found untenable and valueless. This may be said with special applicability to many of the investigations of the so-called zymotic disorders, which have so far eluded the most patient research as to leave us but partially informed of their real causative influence in the modification of disease. Whether yellow fever has its origin in such causes or not, an unsettled discussion exists between the advocates of spontaneous or domestic origin on the one side, and those who hold to invariable importation, within certain limits, on the other. It shall be our aim to avoid adherence to either party in the controversy, in the analysis of the facts and cases brought forward in the report by Dr. Wragg.

Some of the statements, coming in conflict with what we always understood to be the true history of events, induced the patient investigation which has evolved the facts to be presented; and we venture to lay them before the profession, that, if possible, a more correct understanding of the views of both parties, as to the origin of the epidemic which prevailed here in 1862, may be arrived at.

We must say just here that we feel the greatest diffidence in even seeming to controvert the opinions and teachings of one so justly distinguished as Dr. Wragg, whose whole life and well-trained mind have been devoted to the study and treatment of the diseases which afflict our race, and especially so of the origin and progress of yellow fever. Nor can we lose this opportunity to express our highest veneration and esteem for one who generously sacrificed home and its comforts, to give to this community the benefit of his great knowledge and skill, during the fearful epidemic which scourged the city in 1862; and the recollection of whose courtesy and kindness to us personally will always be a source of pleasure which time will not efface.

With the repeated declaration, then, that our only aim and desire will be to present the facts as they really were, or appeared so to be to us, we propose to notice those in the report in regular order, as far as we can, and sustain such statements as may be found correct, and offer rebutting evidence to such as, in our judgment, may appear incorrect.

The fever being wide-spread through the city, and one of the principal physicians prostrate with the disease, on Tuesday, the 23d of September, at the request of the medical faculty of the city, the mayor telegraphed to Charleston, S. C., for medical aid. In response to this call, Dr. Wragg reached here about the 1st of October (it is presumed, as Dr. Choppen arrived on the 26th or 27th of September, and Dr. Wragg and others came a few days afterward).

About this time the city authorities, at the solicitation of private citizens, had empty tar-barrels and rosin burned all day and night, for several days, at the intersection of the principal streets. It will be seen, hereafter, that this occurred about one week after the fever was pronounced epidemic, and the people, panic-stricken, had been and were still making precipitate flight from the city. The sanitary condition previous to this had been too much neglected, and, as represented in the report, the accumulation of "offal" increased, because numerous houses and lots were hastily left by the owners to the care of negro-servants, who, proverbially *careless* of such matters at all times, were especially so then. It may be safely affirmed that, previous to the latter part of August, the sanitary condition of the city was not worse than it had been in previous years, and would have lost nothing by comparison with the years which have followed, up to 1868. Mr. Dawson, at that time mayor of the city, informs us that previous to the alarm which caused the exodus of the people, the usual number of scavengers was regularly employed on the streets; but, as the excitement increased, the employment of men grew more and more difficult, until it was quite impossible to procure them for this or any other purpose; and, in consequence of this fact, the streets and private lots were necessarily neglected, and became receptacles of constantly-increasing garbage. All this may serve to account for the "disagreeable odors which filled the air," and the unpleasant impressions made upon Dr. Wragg as he entered the city. This rapid accumulation of foul matter upon the already uncleanly condition of the city—for truth compels the acknowledgment that during all these years sanitary laws had not been as rigidly enforced as they should have been—was deemed quite sufficient to engender miasmatic dis-

eases; but, nevertheless, as the report states, the general impression prevailed that the yellow fever had its origin in the Kate. Whether this impression was well founded or not, the statements in the report, and those to be presented, must determine.

Wilmington is situated on a series of sand-hills, which were formerly intersected by ravines, supplied with water by numerous adjacent springs, which created "the branches" alluded to in the report. The course of these ravines was uniformly from northeast to southwest. In and about these, ponds formed, and in the summer and fall of the year proved fruitful sources of malaria. Many years ago most of them were filled, and, where necessity required, properly-constructed drains were built. This is especially true of those located in the more central part of the city. Over their former sites, in several instances, there have arisen some of the most comfortable private residences; and the recollection of the "Horse-pond" and "Mud-market," where horses were known to swim, is narrated only by the oldest inhabitants. The natural fall which these hills afford, gives easy flow to the water to a depth varying from twelve to twenty-five feet into these drains, as is proved by the wells found on these elevations. It is only after excessive rains that the water-level rises much above this depth, and I am confident that nowhere within the corporate limits, except in the lowest bottoms, has it ever risen so near the surface as indicated by the report. The nearest approach to this occurred in 1867, when there was an unprecedented fall of rain during the months of July, August, and September. At that time many of the basements, as well as cellars, never before known to be inundated, were, to a considerable extent, filled with water, requiring the constant use of pumps, and in one instance of a fire-engine, for several days—in most other instances, of pumps for several weeks—to relieve them of the water. Moreover, it may be truthfully said that the sanitary condition of the city during that year was not one whit better than during the months of July and August, 1862, just previous to the breaking out of the fever. It is worthy of remark also, as having some bearing on the question at issue, that, while fevers of a malarious

type existed, and diarrhœa and dysentery were rife throughout the city, no indications of yellow fever manifested themselves.

Dissenting from the opinion expressed in the report, as to the "natural drainage" and "water-level" of the city, it is deemed proper, just here, to offer the opinion of Messrs. James & Brown, civil engineers to the city, on the subject, which has been furnished at our request :

WILMINGTON, N. C., *September 11, 1869.*

DR. WILLIAM G. THOMAS—

DEAR SIR: In accordance with your request that we furnish you our opinion as to the capacity for natural drainage in the city of Wilmington, we would state, as our experience and observation, that the natural drainage is admirable—better than most cities along the seaboard.

The average water-level of the city is about eighteen feet.

Very respectfully,

JAMES & BROWN, *Civil Engineers.*

It is not pretended that excessive rains did not saturate the earth to a considerable extent, and tend to the formation of ponds in 1862, for that is an admitted fact. All that has been said is intended simply to show that as much water had fallen before that year and more in 1867, and that during the latter year the heat of the sun was as intense, atmospheric moisture was equally as great, mould formed quite as rapidly, and the accumulation of materials likely to become noxious was as abundant, as during the year of the epidemic, up to its first appearance. It is furthermore affirmed that the ponds of water which formed in 1867 were greater in extent, and remained longer, than they had ever been known to do before. The one at the intersection of Chestnut and Ninth Streets (U in plan of city) flooded some of the houses, and, until it was drained, boats were used by the people going to and from their houses. So also of the large pond at the corner of Orange and Seventh Streets (K in plan of city), which remained until the fall of 1868. It was not common for them to exhibit the green slime upon their surface as represented in the report. The water which accumulates in low places after protracted rainy seasons is generally as clear as spring-water, having percolated the higher sandy ridges; and, since the perfect

drainage of that part of the city known as "Dry Pond," it is a well-known fact that there is not a pond of water within the corporate limits which ordinarily exists longer than a few days, and never longer than as many weeks, even after rainy seasons, and that they are not subject to the formation of the green vegetable fungus usual to stagnant water. The only exception existed in 1862 and 1867, the pond known as Rouse's Pond having had the green slime formed upon it in both years.

To fully appreciate the influence which these several bodies of water may have had upon the sanitary condition of the city, it may be well to give a more definite idea of their localities, sizes, and duration, and preserve a comparison of them in these respects, in the years 1862 and 1867. Dr. Wragg says:

To specify a few of these, I may mention a pond on the Rouse Lot, not far from the gas-works, commencing at the corner of Front and Boundary Streets and extending eastward. This pond was formerly considered a cause of disease, and had been drained at considerable expense. The vent had become choked up this year, and it was now again, as it had been before, a green, slimy sheet of water, with muddy and badly-smelling margins.

Farther to the northeast, at the corner of Sixth and Castle Streets, there is another low spot, where the surface of the earth, for the space of several acres, is covered with a thin sheet of stagnant water.

Still farther to the northeast, on the southern line of the lot occupied by the State stables, at the corner of Eighth and Dock Streets, where about one hundred horses and mules are kept, there is another pond, into which the stable offal is thrown, thereby occasioning a most offensive smell, and furnishing an immense amount of putrescent vegetable material, combined with animal matters, deposited by so large a number of horses.

A short distance to the east of this place, the little valleys among the hills about the Marine Hospital have been, from time to time, in the last six weeks, alternately filled with water and then dried, as the heavy rains would first bring up the water-level above the surface of the earth, and the evaporation again carry it below. In these hollows the water-line is never many inches below the surface of the earth.

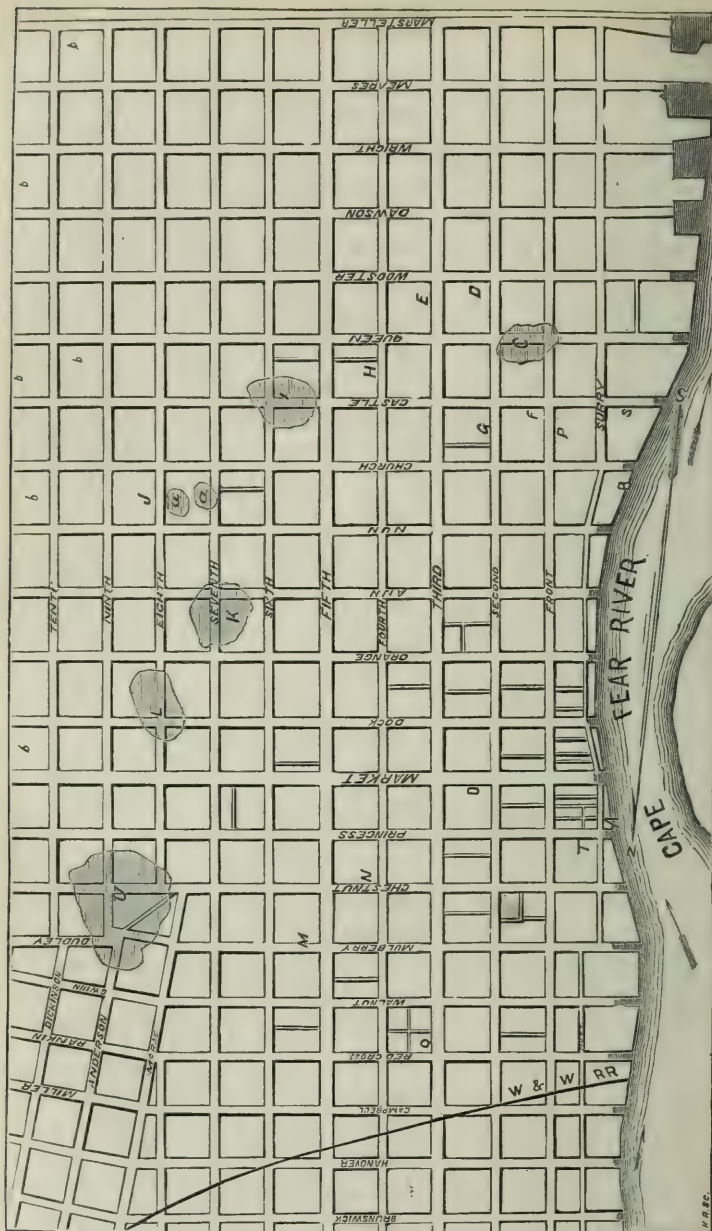
At some distance farther to the east there is a low, swampy piece of ground, of many acres in extent, badly drained; and about half a mile or less from the eastern suburbs of the city, in the same direction, there exists a very large mill-pond, running along the entire eastern face of the city, and covering an area of many acres—say one hundred or more. This pond has often been pointed out by the practising physicians as the cause of

malarial fevers of the very worst type, as well as of every other low grade of disease.

Rouse's Pond is at the intersection of Front and Queen Streets, and marked C in the plan of the city. It is and has always been small, compared to the one known as "Dry Pond" before its drainage. It is very true that it was well calculated to engender miasmatic poison, for the reasons assigned, viz. : the vent, formed of plank, had been filled up, and it had been a place of deposit for the sweepings of the streets. It is forcibly described by Dr. Anderson, further on in the report, and was, unquestionably, a prolific source of poison, generated by the decomposition of animal and vegetable matter. It was covered with green slime, was offensive to a degree highly culpable, and, if the importance attached to it as a chief cause of the terrible epidemic is just, a heavy responsibility rests at the door of the city authorities.

The one farther east, marked I, near the corner of Fifth and Church Streets, is the "Dry Pond," so often mentioned, a name it has always borne, as well when a permanent sheet of water as since its complete drainage. Previous to 1857 it was a large body of water, covered during the hot months with green slime. During that year an effectual covered drain was constructed, at great labor and expense, extending down Fifth Street and terminating in Dudley's Ravine, at Wooster Street. At no time since its construction has water accumulated in this low place, and remained longer than a few hours. Quite thrifty gardens have been cultivated in its former bed every year. It certainly did not contain standing water in 1862, as we recollect, and we are sustained in this assertion by others in the immediate vicinity. There was not even a temporary accumulation of water there in 1867.

The pond at the intersection of Dock, Orange, and Eighth Streets (marked L), near the State stables, existed as represented. We are provided with proof to show that no part of the "offal" from the stables or yard was deposited in that low place, either prior to or during the epidemic. The manure was never allowed to accumulate to any considerable extent—the owners of farms and market-gardens in the vicinity of the city keeping it constantly removed. And, besides, as addi-



MAP OF WILMINGTON, N. C., SHOWING LOCALITIES VISITED BY YELLOW FEVER. (For description, see next page.)

tional proof that such deposit was not allowed to accumulate there, it is now, as it has always been, a barren spot on the grounds, which has failed each year, though drained by a ditch into the neighboring swamp, to return any yield to the labor of the husbandman.

The ponds near the Marine Hospital (marked a, a), generally two in number, naturally drain into "Dry Pond." This drainage was slow, and on this account continued longer than usual in 1862. They were never at any time large or deep, and never covered with fungoid growths.

It is that particular section of the city extending from Eighth Street, near Market, in a southwestwardly direction to the river, embracing the low bottoms near the State stables, Marine Hospital, Dry Pond, and Rouse's Pond, which is most liable to accumulations of water, "as in a cup," as the report expresses it. Nowhere else within the city limits do they ordinarily accumulate; and those in this particular section have never existed (Rouse's Pond excepted) to the same extent, or remained so long, as in 1862 and 1867, particularly in the latter year.

With regard to what is said of the swamps in the city limits, extending eastwardly and marked b, b, b, b, b, and the

DESCRIPTION OF PLAN OF CITY OF WILMINGTON, N. C.

- A. Wharf at which the Kate lay.
- B. Ways to which Kate went third day after arrival.
- C. Rouse's Pond.
- D. Lamon's House.
- E. Harry Smith died.
- F. Laugherty's House—Dennis Mitchell died.
- G. Mrs. Peterson's House.
- H. Mrs. Johnson died.
- I. Dry Pond.
- J. Marine Hospital.
- a a. Two small ponds near, in front.
- K. Large pond in 1867, remained until 1868.
- L. Pond in rear of State stables.
- b b b b b b b. Swamp not inhabited, eastern side of city.
- M. William Hyer's House.
- N. Mrs. Orrel's House.
- O. Swartzman died.
- P. Wilkings Morris's House.
- Q. Lieutenant Davidson died.
- R. E. Hansley's House.
- S. Georgia Weeks died.
- T. Mareden Crapen and wife died.
- U. Pond formed in 1867.

mill-pond about eight hundred yards farther east, we agree with the report to the fullest extent. We are well satisfied that these particular localities have always been the most prolific source of malarious poison to which the city has been year after year subjected. From these swamps, and especially the mill-pond, which was this year emptied by the flood of water breaking away the dam, there emanated an effluvium that was almost intolerably offensive. The easterly winds, which prevailed the greater part of the rainy season and fall, bore the noxious emanations directly to the city, which manifested their deleterious influence upon the entire population of its eastern border. Except the mill-pond, which has never been allowed to refill, the former site of which is being overgrown with willows and water-grass, the same causes of malaria exist still; the swamps are totally undrained, and the dense mass of brambles and bushes has never been removed. The flooding rains in 1867 inundated all these localities, and reproduced the same malarious disorders which occurred in 1862.

These permanent sources of malaria, conjoined with the neglect of the wholesome sanitary regulations, disseminated by authority throughout the city, especially after the yellow fever made its appearance, and the chief local causes of the great sickness of that year, have been named.

It is a matter of regret that meteorological observations were not preserved, especially in 1862; certain it is that mould formed on every thing liable to it, making its appearance in one night. It was a noticeable fact that shoes blacked one morning would be covered by it on the next, and wearing-apparel was only protected by frequent exposure. Remarks were constantly heard to fall in conversation about the oppressiveness of the atmosphere, and that every object, like the human countenance, seemed to wear a sombre hue. The depression of spirits incident to the presence of such a fatal epidemic may have had, and doubtless did have, much to do with the feelings which prompted such remarks; but no one could fail to observe the unusual heaviness of the air during the latter part of September, and in October, when the fever was at its height. Further on, Dr. Wragg says:

I learn from Drs. Thomas and Anderson that fevers of a malarious type were more than usually prevalent. These fevers steadily assumed a more serious character as the season advanced. They often terminated in jaundice, and cases of this latter disease were of unusual frequency, even when no remittent fever had preceded them. There were, also, an unusual number of cases of diarrhoea and dysentery, in many instances assuming a typhoid character.

This is certainly true. The fevers assumed increasing severity and obstinacy as the fall advanced. Even during the height of the epidemic, it was manifest that the malarial law had so impressed itself as to exhibit its peculiar characteristics upon a large number of those sick with yellow fever. We cannot remember that jaundice was so common, certainly not epidemic, as represented in Dr. Anderson's statement further on. There was quite a number of cases, but by no means as frequent as during the same season in 1865. In this we are sustained by other physicians who were here and engaged in practice both years.

This brings us to the arrival of the "Confederate steamer Kate," which occurred at two o'clock P. M., August 6, 1862; when the report introduces, as evidence of the probable domestic origin of the fever, special cases which are declared to have occurred prior to that event. Dr. Wragg says:

Desiring to ascertain, as far as possible, what agency, if any, this arrival may have had on the origin of the yellow fever, I instituted a strict inquiry, both among the physicians and the inhabitants. My first object was, to know whether any cases of fever with symptoms resembling those of yellow fever (whether they had terminated fatally or favorably) had occurred before the arrival of the Kate. The first information bearing on the point was obtained from the inhabitants of one of the humble residences near Rouse's Pond. This entire family (the Lamons) passed through the disease, one of them (Mr. Nichols) dying with black-vomit. I was informed here, while incidentally conversing with the inmates of this house, that they had been performing the last offices for those who had died around them for many weeks, and, among others, they mentioned the guard-man, Smith, who had died about the first of August, under the care of Dr. Schonwald.

On the doctor's arrival, and for several weeks thereafter, his time and attention, we suppose, were too constantly occupied by the sick—a large number of whom we know he had

under his care—to devote much of either to the investigation of the origin and progress of the epidemic. Late in November, when the fever had greatly diminished, attention was turned to this investigation. At least two months previous to these "strict inquiries," if I am correct in this supposition, the fever had spread consternation among the people, and memory was bewildered in attempting to fix the exact dates of the cases given. This or some other cause must have given rise to the discrepancies which we think we shall be able to show in every instance.

The first information is obtained from the Lamon family, living on Wooster Street, one square southeast from Rouse's Pond. (See plan D.)

The "Mr. Nichols" spoken of was either Thaddeus Nichols, or his adopted son, John Nichols. Both of them were intimate friends of Mr. Lamon and family; and the only persons of that name that were so, or that lived in Wilmington, so far as is known.

Mr. Thaddeus Nichols came up from the Sound, where he was engaged in making salt, on Friday, the 26th of September, to see his wife, sick with the fever. She died the next day. After her interment on Sunday, he went to Lamon's house and remained until Monday afternoon, the 29th, when he returned to the Sound. About five days thereafter, depressed in spirits and unwell, he left for Kittrell's Springs, where he died about the 8th of October. Had black-vomit.

John Nichols, private in Colonel Hedrick's command, on furlough, came to Mr. Lamon's during the first week in October. Was taken sick soon after, and Dr. Hooper, homœopathist, was in attendance upon him. Mr. Lamon says, "As John was a soldier, he thought it best to call in one of the army doctors." Dr. Wragg was called, and attended him until he died, on Sunday, 12th October—interred on the 13th. (Oakdale Cemetery records.) Had black-vomit. It is clear that a mistake has occurred in this statement, for both of these persons died long after the Kate's arrival. Furthermore, Mr. Lamon informs us that he was taken with the fever about the time of John's death, and his wife just as he began to convalesce, both having it severely.

The case of Smith, alluded to in the same conversation, will receive special reference hereafter. As Dr. Schonwald attended him, and much importance is attached to what he says, "though not recognized by the medical fraternity of Wilmington as one of the profession," etc., we propose to scrutinize his statements, which are said to be entitled to be considered as facts for record and examination." Quoting from Dr. Schonwald, Dr. Wragg says :

On the 22d of June I was called to see Mr. Cling, of the German Volunteers, who lived in an alley near Front Street, opposite the Cape Fear Bank : the symptoms were pain in the head and back, aching all over, high fever for two days ; could not retain any thing on the stomach for four or five days ; inclined to vomit all the time. Turned yellow all over ; remained yellow till after recovery.

Frederick Kling (not Cling), private, Captain Cumming's battery, on the coast below the city, was discharged on the 15th of April, 1862, as twelve-months volunteer over thirty-five years of age ; had chills and fever while in service, and two or three times after returning to the city ; says he never took his bed an hour ; called two or three times at Dr. Schonwald's drug-store and bought medicine himself ; at no time sick enough to call in a physician ; did not have sick stomach ; did not turn yellow at any time, and returned to the service in good health on the 10th of September, 1862. His intimate friends and associates, Messrs. Shuttee, Voss, and Deinbach, say that all he states is correct. Neither Mr. Kling nor his friends ever heard of his having yellow fever.

On the 26th of July was called by A. E. Hall, Esq., to attend a mulatto boy, J. Sutterton ; he was previously attended by another physician. Symptoms : had high fever ; yellow all over ; could not retain any thing on his stomach : what he vomited looked like snuff ; restless all the time ; died two days after I was called to see him ; lived in Third Street.

John Sutterloh (not Sutterton), a negro-man, under the control of Mr. A. E. Hall, was usually employed as stevedore on the river-boats ; had intermittent fever in the spring of 1862, and up to about one month before his death, when jaundice ensued, and he became dropsical and finally died, his friends say early in August. None of his friends ever heard

that he had yellow fever; no one ever saw him throw up any thing "like snuff," nor can we learn from any of them that he vomited during his sickness. Mr. Hall writes us he never heard of his having yellow fever, and Mr. Martin Neiland, near whom he lived, says emphatically, "he did not have it." While we are satisfied that John Sutterloh did not have yellow fever, yet, as I have no evidence but the memory of his friends to prove the fact, I leave the case to the reader to estimate the value of the evidence as given.

On the 30th of July I was called to see Mrs. E. Hansley. Symptoms: severe pain in the head and back; aching in all the limbs; high fever for two days after; she could not retain any thing on her stomach for three or four days; inclined to vomit all the time; what she threw up looked like snuff mixed with blood; turned yellow all over; remained yellow till and after she recovered; lives corner of Seventh and Red Cross Streets.

Mrs. Hansley, of our own knowledge, has been for a number of years subject to indigestion and chronic diarrhœa, which occasionally produced severe sickness associated with fever, and confined her to her bed, and ultimately caused her death, since 1862.

A letter addressed to Mr. Hansley induced him to call on us, September 14, 1869; when he furnished us with the following statement of facts, and authorized us to use them. He says: "His wife was taken sick in the early part of July, 1862; had been in bad health a long time; at the time referred to by Dr. S., she had one of her usual attacks of diarrhœa, with fever; did not throw up at any time, so far as he can recollect; certainly nothing 'like snuff mixed with blood;' did not turn yellow during her sickness or afterward; did not have yellow fever." He also authorizes us to say, that, with "the view of confirming his own recollections on the subject, he called on Dr. Schonwald just before coming to our office—that he asked the doctor if his wife had yellow fever when he attended her in 1862. The doctor promptly answered, "No." He then asked him if she at any time threw up any thing like snuff or black-vomit. With equal promptness he replied, "*No, she did not throw up any thing but yellow, green stuff; she did not have yellow fever.*"

On the 4th of August I was called to see Lieutenant Davidson, of Newkirk's cavalry. Symptoms were: severe pain in head and back; aching all over; high fever; inclined to vomit; vomited black, bloody stuff, and passed the same; turned yellow all over. I considered it a dangerous case. Dr. Thomas was called in. He died two days after. Lived in Third Street, north of Market.

Lieutenant Robert Davidson, Newkirk's cavalry company, was detailed, for several weeks, to procure hands to construct batteries on the coast, and had been thus employed during July, in the counties of Brunswick, Robinson, and Columbus. He returned to headquarters, Nixon's Sound, ten miles east of the city, the first week in August. He had long had phthisis, and, being unfit for duty, remained with his wife at Mr. Nixon's plantation. Captain Newkirk (a regular graduate in medicine) called to see him about the 10th of August; examined him, and diagnosticated pneumonia. After a few days he came to the city for medical treatment. I saw him first on the 22d of August; was having occasional slight hæmorrhages and an exceedingly troublesome cough. This continued until the afternoon of the 24th, when an alarming hæmorrhage occurred, and that night he died. Lieutenant Davidson died of phthisis pulmonalis, and not yellow fever. Obituary, *Wilmington Journal*, 24th—interment on the 25th. (Oakdale Cemetery records.)

On the 5th of August I was called to see a girl, boarding at Mrs. McLin's; her name was Georgia Weeks. It was a house of ill-fame. Symptoms: severe pain in head and back; vomiting black stuff; could not take nourishment or medicine; vomiting all the time; yellow all over. Died next day.

Nothing can be learned of the sickness of this "poor unfortunate" beyond the statements above. The "Hole in the Wall" (plan of town, S) is near the ways to which the Kate was carried (*idem.*, B). She was interred on the 23d day of August (Oakdale Cemetery records). Same records give cause of death—"hæmorrhage of the lungs." Who gave this statement to the clerk of the cemetery cannot now be known, as he was afterward one of the victims of the epidemic. Need I call attention to the error in date?

Of the five cases given, "four threw up black-vomit," and all are said to have antedated the arrival of the Kate. Dr.

Wragg says, speaking of these cases, "it was well known in Wilmington that they had occurred." We neither heard of these cases, nor suspected, in the slightest degree, the presence of yellow fever. We are not now able to trace back any unequivocal case which gave indications of the disease beyond the 3d day of September, when Louis Swartzman died. Dr. Wragg says :

Dr. Schonwald goes on as follows: "On the 8th of August I was called to visit a man named Robert Smith, town-guard and butcher. Symptoms: cold hands and feet; head hot; yellow all over; vomited black stuff. Died nine o'clock next morning. I understood he had been stimulating for five days; complained of being sick in his intoxication. Took sick nine o'clock at night and died at nine o'clock next morning. Lived in Twelfth Street."

This man, Smith, the guard-man, of whose case I had first heard from the Lamon family, as mentioned above, died, as they informed me, after an illness of four days; so that, although he was seen by Dr. Schonwald on the 8th, he was taken on the 5th, which brings his case, also, anterior to the arrival of the Kate. He, also, had black-vomit, making five out of six of Dr. Schonwald's cases with that symptom. His residence was a short distance north of the Rouse Pond.

Harry Smith, town-guard, had been butchering a while before (Robert Smith did not have the fever at any time; died since of consumption); died on the 12th day of August, and was buried from St. Thomas's Church, in Oakdale Cemetery, on the 13th ("Records of Cemetery," Obituary, *Wilmington Journal* of the 12th). The neighbors give conflicting statements about this case; all agree that he "threw up" "something dark-looking," "like dark bile." Dr. William I. Love, whose medical opinion is entitled to the highest consideration, says he saw the body after death, and that it was yellow: thinks it might have been a case of yellow fever; had never seen a case of the disease up to that time; heard nothing of black-vomit. We can furnish ample proof that Harry Smith was well, and on the steamer Kate, nearly the whole of the afternoon of the day of her arrival, the 6th of August, six days previous to his death. He died in a house known as the "Copps House," on Third Street, between Queen and Wooster Streets, *one square* east of the Rouse Pond (E, plan of city). Admitting that he died of yellow fever, and we are disposed to think he

did, is there not as much probability that he contracted it on the *Kate*, as that it was inhaled from the noxious emanations which surrounded him? Moreover, his house was used for smuggling, as is well known by the neighbors. From the night after the arrival of the *Kate* to the day of his death, bales and boxes of goods taken therefrom were seen in his house, and seamen were there (there was no other vessel in port at the time, and they were therefore from the *Kate*) day and night. Two of them were seen by a medical gentleman of this city in bed, in the same room with Smith, and at the time he was dying. The report says he was taken on the 5th and died on the 9th, giving him four days to sicken and die. I have shown, upon testimony equally reliable, that he was well enough to be on the *Kate* on the 6th, and died on the 12th and was buried on the 13th. The error in dates, as given Dr. Schonwald, and the facts now adduced, show conclusively that, if he died of yellow fever, it is more likely that he contracted it on the *Kate* than that it had a domestic origin in his case.

We now approach Dr. Anderson's statement made to Dr. Wragg, and with no small share of diffidence, because of our high respect for any opinion coming from one so justly entitled to our highest confidence; and whose distinguished rank in the profession commands for his medical observations the greatest consideration.

Before we proceed to notice the cases reported by Dr. Anderson as having occurred before the arrival of the *Kate*, it is necessary to allude again to a few of his statements in regard to the sanitary condition of the city. Special reference is made by him, and great importance attached, to the condition of the cellars on Market Street, and the stores on Water Street north of Market.

It is a well-known fact that the cellars on the north side of Market Street had been subject to inundation whenever, in previous years, a more than ordinary fall of rain occurred. One or two of them had, several years previous to 1862, been filled up on this account; and one, at least, had a spring in it which, at all times, created a troublesome accumulation of water. It is, nevertheless, true that, during this year, all of

them were more or less filled with water, which rendered them not only useless but a nuisance. So also with regard to the stores on Water Street; while the cellars were filled in 1863 and 1864, preventing the exceedingly large quantity of water which would surely have accumulated in them in 1867, the stores on Water Street, although the floors had been repaired and raised, were, in the latter year, as completely flooded as—indeed, more so than—in 1862. The first death from yellow fever, in either of these places of business, investigation shows, occurred after the fever became epidemic, and it is hardly fair to trace the deaths of the druggists on Market Street, and the merchants on Water Street, to these local causes. The deluging rains, excessive moisture, intense heat of the sun, the formation of ponds, the bogs and fens on the eastern border of the city, and the emptied mill-pond, have all been alluded to and admitted; so also with respect to the cleanliness of the city, both in private lots and residences, and the open streets, and further reference is needless. There is one important fact which should be named, respecting that part of the city near the Marine Hospital. During the years 1865 and 1866 this entire section was an encampment for Federal soldiers, mostly negro soldiers; and afterward was squatted upon by negroes, mostly the squalid refugees who followed the Federal army to this place, and in consequence, as we well know, was in a most filthy condition, totally devoid of the corrective improvements of sanitary regulations. As we have said in a former part of this notice, that in all respects, in 1867 at least, it presented more abundant causes for the production of miasmatic diseases than 1862, it is hardly needful to repeat it here.

With these remarks on Dr. Anderson's representation of the sanitary condition of Wilmington, we will now notice the special cases of fever referred to by him, as having occurred before the arrival of the Kate. Speaking of the Rouse Pond, he says:

One square south of this pond, in the direction of the prevailing winds, the first cases of fever commenced. On the first day of August, a young man, in the employment of the Government, by the name of Morris, was taken sick with all the symptoms of yellow fever, and recovered, after a protracted illness. Three squares east of Rouse's Pond, on Fourth Street, an-

other pond formed in the immediate vicinity of a house occupied by Mrs. Johnson, who died with black-vomit, and had two children ill with yellow fever. These cases occurred about the 12th of August. One square south of the same pond, the case of Smith, the guard-man, occurred on the 5th of August.

Around these two ponds many fatal cases of the disease have continued to occur during the whole course of the epidemic. In the Campbell House, one door north of the Rouse Pond, several fatal cases occurred, and this quarter of the town has been more afflicted than any other.

The first case is that of "a young man in the employment of the Government." He does not remember the circumstances accurately enough to say whether it was the gentleman to be referred to presently, or some other person of the same name. The following coincidences afford strong circumstantial evidence that it was. I will state them, and the reader may estimate their value:

Mr. Wilkes Morris, a young man of great usefulness and promise, in the employ of the Government, living on the west side of Front Street, between Church and Castle Streets (plan P), "in the direction of the prevailing winds" (easterly winds), was taken sick, he himself says, on the 1st day of August. Dr. Freeman, homœopathist, visited him twice a day, for five days, and once a day the two subsequent days; had bilious fever, in which he says Dr. F. concurs; did not at that time have yellow fever; but was seized with it on the 24th of September; Dr. Hooper, homœopathist, attended him two days, when he also was taken sick, and Dr. Anderson administered to him until his recovery.

The next case is that of Mrs. Mary Johnson. The collection of water spoken of on Fourth Street was small, and promptly removed by a temporary ditch cut through the square below, and emptied into the Rouse Pond, a little lower down. Mrs. Johnson lived in an alley two doors from Fourth Street. Her brother, Mr. John Neimyer, and her daughter, Emily Johnson, say she died with black-vomit, on the 3d of October. She was buried in Oakdale Cemetery on the same day (Cemetery records). Her two children recovered.

The Campbell House spoken of in the next paragraph, and the "several fatal cases which occurred," will be noticed hereafter. Dr. Wragg, quoting from Dr. Anderson, says:

The vessel arrived in Wilmington at 2 o'clock P. M., August the 6th, one of the hottest and most oppressive days of the season. Immediately after her arrival, Dr. Anderson was called to see O'Donohoe, one of the firemen, who had been taken sick the day before, being the third day out from Nassau. His symptoms were intense headache, injected eyes, pain in the back, nausea, and vomiting. In his delirium that night, he strayed away from the ship, and Dr. Anderson saw him no more. After rambling about for thirty hours, he was taken into the Marine Hospital on the morning of the 8th, where he died.

As this case of O'Donohoe is one of the most important in all its bearings, we crave indulgence for the space we shall devote to it.

Mr. George C. McDugal, chief engineer of the *Kate*, says: "The night before leaving Nassau, we found this man drunk, and asleep in the open air on the wharf; ordered him on board, and remarked, 'You will be sure to have the yellow fever after such exposure;' the second day out he complained, and was unfit for duty; grew worse until he escaped from the vessel in a delirium; is next seen at the hospital." Dr. Thomas B. Carr, acting assistant-surgeon in the hospital, makes the following statement:

Florence O'Donohoe, coal-passenger on the blockade steamer *Kate*, was found in the woods a little beyond the Marine Hospital on the morning subsequent to the arrival of said steamer in this port from Nassau, N. P. (I think the date was August 8, 1862.) He appeared as if recovering from a debauch—face red and bloated—eyes considerably injected, speech incoherent. He stated, on examination, that he belonged on the steamer *Kate*. About nine o'clock that morning, he was carried to the steamer in an ambulance, when it was ascertained that he had been attended by a physician immediately after his arrival in port, and that he had escaped from the vessel in his delirium during the night. He was then sent back to the Marine Hospital, and came under my care for treatment about 11 o'clock A. M. Cerebral symptoms being predominant, I ordered a full dose of ol. ricini. This operated well in the evening, when an opiate was administered. About dusk he became quite delirious, and attempted to jump from the window on the upper floor of the hospital. He was therefore removed to the basement, and strict watch kept over him. The next morning, on my arrival at the hospital, I found him moribund. Was told that he had been taking brandy toddy by order of Dr. Custis. I endeavored to administer more brandy, but the attempt was immediately followed by the vomiting of a dark fluid mingled with a substance resembling coffee-grounds. Subsequent familiarity with yellow fever confirms me in the belief suggested at the time to Dr. Custis, though not concurred in by him, that this

discharge was "black-vomit." O'Donohoe died a few minutes after this vomiting, and, previous to his burial on the next day, I was informed by the attendant that the body had turned very yellow. Dr. Custis recorded this case in the hospital register as delirium tremens.

About two weeks from this time, two convalescent patients (soldiers, by the name of Gregory and Muse, or very similar names), who were in the same ward in which O'Donohoe was first placed, were suddenly attacked with aggravated symptoms, and died the following day. A few days after, two others, both convalescents from continued fever, died very suddenly. These all turned very yellow soon after death.

It was then determined to remove all the patients from this ward and have it thoroughly cleansed, whitewashed, and ventilated. About a week after this removal, two of the patients removed from this same ward, the one named Vroom, a convalescent from continued fever, the other McEachern (also convalescing), who had been under treatment for pneumonia about a fortnight, and who was thoroughly pyralized, were unexpectedly found in the morning moribund. Dr. Custis, the surgeon in charge, took the slate from my hand while we were examining Vroom (whose bed was the next to McEachern, mentioned above) and wrote upon it, "This is the yellow fever they have down town." These two patients died within a few hours, and soon after turned yellow.

The above cases occurred under my own observation while I was acting as assistant-surgeon in the Marine Hospital. Almost immediately after the last-mentioned deaths, the yellow fever was epidemic both in the hospital and city.

THOMAS B. CARR, M. D.

WILMINGTON, *September 1, 1869.*

This statement contains two important facts :

1. That O'Donohoe had yellow fever—threw up black-vomit, and turned yellow. Dr. Wragg also says, "There was no doubt, on the minds of any who saw him, of the nature of his disease."

2. That six cases, strongly resembling yellow fever, occurred in the hospital subsequent to the death of O'Donohoe, and prior to the 24th of September, when the fever was thought to be epidemic in the city.

Dr. Carr is a highly-educated physician, a refined and cultivated Christian gentleman, and his statement is entitled to the highest consideration and confidence; and, when corroborated by circumstances which have been and are to be adduced, will set aside the inference to be drawn from the declarations of Dr. Wragg, further on, in the report, that "Getty, the first case of black-vomit which occurred after the death of

O'Donohoe, was admitted into the hospital fifty-one days after that event."

Let it be distinctly understood that Dr. Carr writes from memory ; the records of the hospital being lost, cannot now be consulted. The discrepancy between the statements of Dr. Carr and Dr. Wragg, taken from them, must have arisen from the fact that the surgeon in charge, Dr. Custis, did not, and would not believe that yellow fever existed either in the city or the hospital, until it was reported by Dr. Dickson and myself, on the 13th day of September, as will be seen hereafter. This explanation is strengthened by the circumstance that he recorded O'Donohoe's case as delirium tremens ; although Dr. Wragg says there was no doubt about his disease. On referring to the records of interments in Oakdale Cemetery, this striking corroboration of Dr. Carr's statements is found : The records show the interments of D. L. Gregory, soldier, typhoid fever, on the 23d day of August, 1862, and B. P. Muse, soldier, typhoid fever, on the 25th of August, 1862 ; also, J. M. Broom, and D. McEachern, on the 14th September, 1862.

Dr. Carr says it should be J. M. Vroom, and not Broom, and after seeing the name of D. McEachern, he promptly said that was McAren—that McEachern so pronounced his name, and upon inquiry of Mr. John McEachern, of this place, he says the Scotch people pronounce it as if spelt McAren. The names of the other two who died, with symptoms of yellow fever, he does not remember ; but Mr. W. T. Adkins, who was at the time nurse in the hospital, says one of them was named Thompson. All the soldiers who died in the hospital, and in and near the city, were not interred in the cemetery, and this may account for not finding their names in its records. The names of four out of the six who died there are found, and their interment accords with the doctor's dates, or nearly so ; and the fact of his naming Vroom and McAren, and recognizing them in Broom and McEachern, is confirmation strong enough to satisfy any mind of the correctness of his statements. All this, together with the fact that Dr. Custis recorded O'Donohoe's case as delirium tremens, and did not admit that yellow fever existed in the hospital until the day Vroom was examined, when he admitted it, by writing on the slate "This is the yellow

fever they have down town," and proof quite sufficient is presented to show that the disease was in the hospital soon after O'Donohoe's death. The remark of Dr. Custis to Dr. Carr, about "the yellow fever down town," is explained by the fact that Dr. Dickson and myself reported the cases of Wm. Hyer and Mrs. Orrel as yellow fever—the first that had been so reported—on the 14th day of September.

We proceed to the case of Dennis Mitchell, and others who are next given by Dr. Anderson. He says :

On the evening of the 16th August, Dr. A. was called to visit a seaman, named Denis Mitchell, of the *Kate*, in the house of a man named Campbell, four hundred feet north of the Rouse Pond, above described. He had been sick for several days, on board the vessel, while lying at the marine railway near by. This patient had all the symptoms of a violent attack of yellow fever. He was delirious, and refused medicine. On the morning of the 17th (the next day), the patient was laid out dead and ready for interment, while the adjoining room was filled with spectators of both sexes examining the body and indulging in carousal.

Three or four days after the death of Mitchell, Campbell, the proprietor of the house, his wife and children, all died of the disease, as did also many of the other spectators.

At the same time, on the opposite corner of the square, Mrs. Peterson was attacked and recovered ; but two inmates of her house have since died.

Dennis Mitchell was in the employment of the chief engineer, an active, strong young man. He was well on arrival at this port, and was engaged in cleaning the boilers for two days thereafter. On the third day in port, was too unwell for duty, and was sent to lodgings on shore. He lodged with Edward Laugherty, on Castle Street, second door from Front Street (F). The *Kate* went on the ways—not far from this house—that day or the next. It will also be seen that Cassidy's ship-yard is near the "Hole in the Wall" (S, plan of city), the house in which Georgia Weeks died, about a stone's throw distant.

He died in Edward Laugherty's house, on the 17th August (*Wilmington Journal* of August 18th), and was interred the 18th (Oakdale Cemetery records). The next entire paragraph is incorrect. Robert Campbell was a single man, clerk for Mr. Thomas Smith, and died on the corner of Front and Castle Streets, Laugherty's house being next door, on Castle

Street. Edward Laugherty and his wife—he had no children—Peter Flanagan, and Michael Flanagan, brothers, also had the disease and recovered. It is certain that neither of them died. Robert Campbell was buried on the 8th day of September. The same day Mrs. Thomas Clark, living next door, who nursed Dennis Mitchell, and washed his clothes and bed-clothes, died, and was buried, also. (*Wilmington Journal* and Cemetery records.) They were the first who died on Castle Street, or in the neighborhood, after Dennis Mitchell. The next deaths on that street were Mrs. Thomas J. Capps on the 3d, and J. W. Capps, on the 20th October, following. We are unable to trace any other death on Castle Street. James E. Brickhouse died on the 12th September, on the corner of Church and Front Streets. Mrs. Peterson was our patient, and was taken sick on the 8th September, and, after having the petechial eruption very freely, recovered. (G, plan of city). The inmates who died in her house were Mary Ann Hardison, on the 1st day, October, and Mrs. Mary Jane Gordon, Mrs. Peterson's mother, on the 21st October, 1862.

In the conclusion of his statement, Dr. Anderson says: "The fever was decided epidemic on the 14th of September. It has been shown, by what we have already said, that this is also a mistake. The first official announcement of the fever was made on that day; it was not thought to be epidemic, until about the 24th of the month."

This closes the special cases brought forward in the report in proof of the existence of yellow fever before the arrival of the Kate.

We have now presented our opinion on the facts and circumstances, preceding and accompanying the outbreak of the fever. We are aware of its imperfections, and only claim for it an earnest aim to present them faithfully, that the medical history of the epidemic may be more fully understood. Fully impressed with a proper sense of the duty of the historian, to simply record facts as they have occurred without reference to consequences, we rest our reputation, as such, upon the firm foundation of realities, and trust the vindication of our integrity to the authenticity of the facts presented.

As the inference may be drawn from the tenor of the re-

port, that the fever had a domestic origin, and as some of the facts adduced by us tend to invalidate the opinion, the question still seems, Did the yellow fever in Wilmington, N. C., during the fall of 1862, originate spontaneously from domestic sources of decomposing animal and vegetable matter? or did it originate from the Kate? While we have differed from the report in some instances, where it seems to associate local causes with the morbidic poison which produced yellow fever, we have, at the same time, sustained it in so far as we could trace any connection between those causes and the malarial diseases which common experience and observation had taught us to associate together. We were not then, and we are not now, satisfied of the existence of a peculiar characteristic about the miasm of that year, which constituted it a specific poison, and which superadded the yellow fever to the common malarial fevers of this climate. We do not say that such specific poison did not exist, for we freely admit that many of the epidemics in other cities, as Charleston, Philadelphia, New York, Mobile, and Savannah, were, as the history of some of them shows, preceded by, and associated with, the severe malarial disorders which characterized the fevers here in 1862, when no direct evidence of contagion by importation could be proven. The miasmatic fevers, the diarrhœa and dysentery, which in ordinary years we witnessed and learned to treat successfully, were this year more than commonly severe and difficult to arrest. We may have seen them, in both these respects, as much so years preceding 1862, and we are quite confident they were equally obstinate and difficult of management in 1867. If intense heat of the sun, and excessive humidity, if abundance of material, animal and vegetable, undergoing decomposition, existed, if personal and public hygiene were neglected in 1862, to such extent as to favor the production of this morbidic principle, why may we not have looked with equal reason for the same poison in 1865, when almost every section of the city, and its suburbs, were occupied by sick and dying Federal soldiers, taken from Southern prisons; and when miasmatic fevers, jaundice, dysentery, and diarrhœa, prevailed extensively? Why did not that peculiar principle manifest itself also in 1867, during which year we have conclusively shown there

were more abundant causes of malarial disease existing than were ever known before? We are well aware that it has been shown with great ingenuity and force, by Dr. La Roche, that this mode of reasoning from analogy will not hold in regard to the origin of yellow fever; nevertheless, we cannot divest ourselves of the impression such facts produce. If the *Kate* had not so inopportunately arrived from an infected port, and the yellow fever had spread dismay and death none the less, it would have afforded a most convincing proof of the spontaneity of the disease. But the *Kate* did arrive, and we have shown that the proof of the existence of the eight cases of yellow fever, which Dr. Wragg presents as happening prior to that event, is wholly untenable, and, of consequence, leaves the question still unsolved. While we cannot positively trace the first case of yellow fever to local causes alone, we are far from asserting that such causes are incapable of originating the poisonous principle; nor do we wish to be understood, on the other hand, as maintaining that the epidemic sprang unequivocally from the steamer *Kate*, although the close connection some of these cases had with that vessel continues to be sufficient reason, with many, that it did so originate. We will recapitulate a few of them; and notice them, as far as we can, in regular order as to date.

It has been shown that the several cases, which were supposed to have occurred before the arrival of the vessel, are not sustained by facts and circumstances; and more still, that all of them who did have yellow fever were attacked subsequent to that date.

Florence O'Donohoe was taken sick at sea two days before he reached this port, and died—having thrown up black-vomit—in the Marine Hospital, on the 9th of August, 1862. If Dr. Carr's testimony is to be accepted—and to our mind it is entitled to entire confidence—there were certainly four (if not six) other cases in that institution, so soon after his death, and so closely associated with him, as to be very significant, to say the least. The next case in regular order of date is that of Harry Smith, who died on the 12th of August, and not on the 9th. The most irrefragable testimony can be adduced, if needful, to prove that he was well, and on the *Kate*, the whole

of the afternoon of the 6th, the day on which she arrived ; as has been said already, if he had the disease, it was quite as probable that he contracted it on board the vessel, as from poisonous sources around him.

The next case is that of Dennis Mitchell, seaman on the *Kate*, who died at Edward Laugherty's house on the 17th of August. After his death Laugherty and wife, Robert Campbell, Mrs. Thomas Clark, Peter and Michael Flanagan—brothers—and two other men from the steamer—names unknown—were taken sick with the disease. It can be positively proved, also, that all these persons, besides others, were around Mitchell and nursing him while sick, and after death ; and were at Harry Smith's "wake" on the night of the 12th of August ; and at Mitchell's "wake," also, on the night of the 17th of August. Two of them, Campbell and Mrs. Clark, died of yellow fever, and the others recovered. Could Laugherty's house have become, by these circumstances, a focus from which the fever disseminated itself ?

Georgia Weeks would be the next in order, if there were sufficient evidence to prove that she died of the disease. We have not alluded in this *résumé* to the case of Wilkes Morris. Dr. Anderson does not say that he attended the case, but merely says it was the first case, and that it occurred on the 1st of August. It is fair to infer that Mr. Wilkes Morris is the person alluded to, as he was taken sick with bilious fever on that day ; was in the employment of the Government, and lived in the direction of the prevailing wind, which, coming from the east, would have blown the malaria directly over his house. (See plan of the city.)

Louis Swartzman is the next of which we can obtain any knowledge. He died on Market Street (O, plan of the city), on the night of the 3d of September. (*Wilmington Journal*, Cemetery records.) Numbers of his friends and acquaintances affirm that he was very frequently on the *Kate*, up to the time he was taken sick. Mr. Loeb, his partner, says he was not. Mrs. Marsden Crapen died next, on the 9th of September, on Princess Street. (T, plan of the city.) Her husband, who was constantly on the vessel, on the 19th. We are unable to state which was taken sick first.

William Hyer died on the 13th of September, on Mulberry between Fifth and Sixth Streets (M, plan of the city), and Mrs. Orrel on the 14th of September, on Chestnut, between Fourth and Fifth Streets (N, plan of the city). These two cases, it will be remembered, were the first that were officially reported as yellow fever. The brothers of Mr. Hyer assure me that they know he was almost constantly on the steamer, up to the day he was taken sick.

While other cities, north and south of Wilmington, have been subject to invasions, more or less frequent, of the disease of which we have been treating, it has appeared here once only, previous to 1862, as an epidemic. This occurred in 1821. Tradition alone informs us about this, as there are no records on the subject to be obtained. Several of the oldest inhabitants now living were here at that time, and some of them had the disease. They all concur in saying that the disease followed the advent of the brig John London, with cargo of molasses, from Matanzas, at which place the fever was said to be prevailing when the brig left. It arrived on the 9th of August, 1821, and some of the crew, and other persons from among the citizens, who were frequently on board, were the first attacked. It became epidemic, and proved very fatal.

Mr. Groves, superintending a saw-mill in Charleston, S. C., lost his wife on the 1st day of September, 1854, during the epidemic of yellow fever, which existed there that year. Immediately thereafter, he left with his little son for this his native place, and reached here on the 3d of September. That night, the child, between five and ten years of age, was taken sick, and ultimately threw up black-vomit, but recovered. While convalescing, his aunt, Mrs. Rankin, was taken sick, threw up black-vomit, turned yellow, and died. A short time after—the exact date not known—Mrs. Cannon, living next door, sickened and died; turned yellow after death. She did not visit the child or Mrs. Rankin. Mr. Boyd, one square distant, sickened, turned yellow and died about the same time Mrs. Rankin died. He did not visit the house. Thus it continued until nine deaths were recorded as resulting from yellow fever that fall. Several who had the disease recovered. Among these, we remember the cases of Mrs. Hously and her

three daughters, living on the opposite side of the street, about one hundred yards distant. They all had the characteristic symptoms of the disease, one of them having hæmorrhage from the gums. They all recovered. Familiarity with yellow fever in 1862 enables us to say, with positiveness, that they had the disease.

Fortunately, a decided frost occurred early in October, and its further progress was arrested.

ART. II.—*The Large Intestine in Infancy.* By J. LEWIS SMITH, M. D., of New York.

IN infancy, the large intestine is the seat of organic diseases more frequently than any other portion of the digestive apparatus except the buccal cavity. Intestinal inflammation at this age is not infrequently limited to the colon, and, when it occurs in the small intestines, the colon is, in most cases, at the same time inflamed, and in a greater degree. Again, diseases of displacement in infancy (intussusception, hernia, prolapse) are more frequently located in the large intestine than in other parts of the digestive tube.

Since the large intestine is so frequently the seat of infantile diseases, I have from time to time, chiefly in 1866 and '67, made careful *post-mortem* examinations of this organ, in order to ascertain its distinctive anatomical characters in the first years of life, on which its peculiar liability to disease depends. The following facts have been derived from these examinations. The infants examined were between the ages of a few days and a little less than two years.

The coats of the large as of the small intestine are thinner and more delicate in the infant than in the adult, so as to allow a more ready transmission of light. When the intestine is laid open, the finger can be indistinctly seen through its walls. The tenuity is especially observed in the muscular and fibro-cellular coats. The diameter of the large intestine, and the depressions or irregularities upon its internal surface, are relatively less than in the adult. The comparative smoothness and uniformity of the internal surface doubtless facilitate the passage of fecal matter.

Measurements.—The depth of the peritoneal reflexion, which constitutes the meso-colon and meso-rectum, varies in different parts of the tube. At the ilio-cæcal valve it is continuous with the mesentery, and of the same depth, so that the appendix vermiformis and lower end of the cæcum move freely. As we trace upward the ascending colon, the meso-colon gradually diminishes, and the intestine approaches the posterior abdominal wall, till at a point opposite the lower end of the right kidney, where it is nearly or quite absent. In eight out of twelve cases, I found the intestine adherent either to the lower end of the kidney, or to a point immediately below it; while in the remaining four the intestine was so little elevated that its movements in the abdomen were obviously very restricted.

Above the kidney, the depth of the meso-colon gradually increases to the transverse section, where, in twenty-five cases, I found it from $1\frac{1}{2}$ to $4\frac{1}{4}$ inches, with an average of $2\frac{1}{2}$ inches. The great depth of the meso-colon in the epigastrium allows the intestine to pass forward to the anterior abdominal wall. In the descending portion the meso-colon gradually diminishes till it reaches the point where it passes over the left kidney, where it is at its minimum as regards the last half of the large intestine. In three cases I found the intestine adherent at this point, and in nine separated by a space of a little less than one inch in the average.

Below the kidney the meso-colon increases, and at the sigmoid flexure, in twenty cases, its average depth was 2 inches, with a maximum of $4\frac{1}{2}$. Below the sigmoid flexure its depth again diminishes; nevertheless, the return to its termination is freely movable.

The average length of the small intestine, in eight cases, was 13 feet; of the large, in nineteen cases, 27.5 inches. The ratio of the former to the latter was, therefore, 5.6 to 1. In twelve cases, the length of the large intestine and the space occupied by it were ascertained. The average of the former was 26 inches; of the latter, 10.6 inches.

About one-third of the large intestine lies below the brim of the pelvis. In an average of thirteen cases, 9.25 inches were found below, and 18.57 inches above the brim. The impor-

tance of this fact is more apparent, when we consider the small size of the abdominal and pelvic cavities in the infant. In the cases which furnished the above measurements, the transverse diameter of the brim of the pelvis varied from $1\frac{1}{4}$ to $1\frac{3}{4}$ inches (the infants were under the age of eight months), the antero-posterior from $1\frac{1}{8}$ to $1\frac{1}{2}$ inches, while the distance from the anus to the promontory of the sacrum was from $1\frac{3}{4}$ to $2\frac{1}{4}$ inches. Evidently, therefore, in infancy, the large intestine not only fills that portion of the pelvic cavity which is not occupied by the pelvic viscera, but also, especially when the bladder is distended, the lower part of the abdomen.

Pathological Importance of these Anatomical Facts.—It is seen, from the above measurements, that the large intestine has nearly three times the length of the space which it occupies. This obviously necessitates its doubling on itself. Between the brim of the pelvis and the anus, where there are nine inches of intestine, although the distance from the anus to the promontory of the sacrum is only two inches, these curvatures are such that they obviously retard, in a measure, the passage of fecal matter.

The pathological importance of this appears in infantile entero-colitis; in which the alvine evacuations are commonly acid and irritating, so as not infrequently to cause excoriation of the nates. The fecal matter retained in and immediately above the sigmoid flexure, in such cases, obviously intensifies the inflammation, and, accordingly, at the autopsies of such cases, we commonly find lesions which indicate a higher grade of inflammation in this part of the intestines than elsewhere.

The great length of the large intestine as compared with the space which it occupies, and its free mobility at points where there is considerable depth of its peritoneal attachments, are circumstances which are favorable to its displacement. Intussusception occurs much more frequently in infancy than in any other period of life, and in a large proportion of cases it commences either by a prolapse of the ileum through the ileo-cæcal valve, or an inversion of the caput-coli. The thinness of the intestinal walls in the infant, and the attachment of the colon to the left kidney, are anatomical conditions, which

are sufficient to account for the locality of the displacement, and the age at which it occurs.

Inguinal and femoral hernia, often congenital, are other diseases of displacement, which are common in infancy. I have made *post-mortem* examinations of two congenital cases, and in both the large intestine was the part which had entered the hernial sac. The ovary sometimes descends into the sac, but, with the exception of this, both femoral and inguinal hernias in the infant are formed, in most instances, so far as I have been able to ascertain from published cases, by the large intestine, as in the two cases which I have examined. The omentum is not sufficiently developed in the infant to extend into the hernial sac. That the large intestine forms the hernial tumor is, indeed, apparent from the anatomical fact already stated, namely, that it lies immediately above the abdominal rings. In a case related to me, the appendix vermiformis, and the commencement of the cæcum, formed an inguinal hernia on the left side, and other cases are related, in which these parts were found in the sac on the right side.

The liability of infants to prolapse of the rectum is well known. This displacement is ordinarily due to tenesmus, which accompanies colitis, and that it is so common in infancy receives explanation in the facts stated above, namely, that the intestinal walls are thin, and therefore readily displaced, and the sigmoid flexure and rectum are more than four times longer than the distance from the brim of the pelvis to the anus, so that they are necessarily much bent upon themselves, and feebly supported by their peritoneal attachment.

A knowledge of the anatomy of that portion of the large intestine which lies below the brim of the pelvis is important, in reference to the introduction of instruments into the rectum. We are advised in some of the text-books, in the treatment of intussusception, to introduce the instrument, through which the injection or inflation is to be made, as far as possible. The danger of any forcible introduction of instruments into the rectum is apparent, if we consider the thinness of the intestinal walls and the curvatures and angles occurring in this part of the intestine. In order to determine to what distance an instrument might be passed with safety, I introduced a

rounded instrument, usually a No. 12 catheter, rendered firmer by a rod in its interior, or a closed enterotome, noting the point at which it was obstructed. Firm pressure caused, in most instances, penetration of the coats of the intestine. The following table exhibits the result of these examinations:

AGE.					
2 years,		Instrument arrested at $6\frac{1}{2}$ inches.			
3 months	9 days,	"	"	6	"
3	" 14 "	"	"	6	"
6	" 2 "	"	"	2	"
7	" 22 "	"	"	$6\frac{1}{4}$	"
2	" 7 "	Closed enterotome, penetrated coats of intestine at $2\frac{1}{2}$ inches.			
3	" 14 "	"	"	"	" 5 "
1	" 11 "	"	"	entered full length.	
3	" 8 "	"	"	"	"
$4\frac{1}{2}$	"	No. 12 catheter arrested at $2\frac{1}{2}$ inches.			
3	"	"	"	$2\frac{1}{2}$	"
3	"	"	"	penetrated coats of intestine at $3\frac{1}{4}$ inches.	
9 days,		"	"	"	$1\frac{1}{2}$ "
50 hours,		"	"	"	3 "
$3\frac{1}{2}$ months,		"	"	"	$1\frac{1}{2}$ "
8 "		"	"	"	$5\frac{1}{8}$ "
7 "		"	"	"	$1\frac{3}{4}$ "
3 weeks,		"	"	"	$3\frac{1}{2}$ "
16 months,		"	"	"	$3\frac{1}{2}$ "
4 days,		"	"	"	$4\frac{1}{4}$ "
		"	"	"	$4\frac{3}{4}$ "
8 months,		"	"	"	$1\frac{1}{2}$ "
6 "		"	"	"	$2\frac{1}{4}$ "
8 "		"	"	"	$1\frac{3}{4}$ "

The *post-mortem* examinations were made so soon after death in most of the above cases, that it is probable that the coats of the intestine were not materially weakened by cadaveric changes. It is seen that a rounded and smooth instrument, corresponding in shape and form with those sometimes employed for the purpose of removing obstruction by inflation or injection, was arrested by the curvatures, and perforated the intestinal coats at a distance varying from one and a half to about six inches from the anus. The degree of pressure required to produce perforation was not great. Obviously the practical lesson is, in the treatment of intussusception, or other diseases which require the introduction of an instrument into the rectum of an infant, to introduce it slowly and cautiously

beyond the distance of one and a half inches, and not to attempt to introduce it farther, if it meets with a firm resistance. A large, rounded, and slightly-flexible instrument can obviously be introduced with more safety and to a greater distance than one of smaller diameter and not flexible. In the Nursery and Child's Hospital, recently, chronic entero-colitis has been treated in several instances by injections, into the larger intestine, of nitrate of silver through a flexible tube, about one-third of an inch in diameter, introduced six inches or even a little farther into the rectum. The instrument is introduced very slowly, and no ill effect has thus far followed its use, except in one or two cases in which it caused a slight discharge of blood. The experiments tabulated above show the danger which attends the employment of instruments injudiciously selected, or hastily and rashly employed.

Clinical Records from Private Practice.

I.—*Report of Three Cases of Hydrophobia.* Communicated by B. S. CATLIN, M. D., Secretary of the Rensselaer County Medical Society.

[At the last meeting of the Rensselaer County Medical Society, Dr. Catlin laid before the members the report of the first case herewith submitted. The report was furnished by Dr. Rodman, of Frankfort, Kentucky, at the request of Dr. Catlin, he (Dr. C.) having seen a newspaper notice of the case, and written to Dr. R. for a more detailed record. The reading of this report elicited verbal accounts of the other cases, which, on resolution by the Society, were directed to be reduced to writing, and submitted to this JOURNAL for publication.—EDITOR.]

CASE I.—Reported by W. B. Rodman, M. D., Frankfort, Kentucky.

In the month of September, 1868, John D. Sargent, aged about forty, a green-grocer by trade, was bitten by a small puppy. The wound bled a few drops when the parts were compressed. It healed at once and kindly, and nothing more was thought of it than if it had been a mere pin-scratch. The puppy was given to a boy, who cared for it until two or three days after the bite, when it died; as they who saw it

supposed, from "lice and fleas," which were very numerous on it. Upon inquiry I learned that the dog was "sick" at the time, and was also "snappish," having bit at two or three others who handled it. The bite was on the ball of Mr. Sargent's thumb, and therefore there was no opportunity for the virus to be wiped off by the clothing.

Saturday, March 19, 1869, at two o'clock, P. M., Mr. Sargent attended the funeral of his brother-in-law. Returning from the funeral, in a close carriage, he felt as if he needed fresh air. He opened the carriage window, and put his head out. He immediately had a slight sense of suffocation, and closed the window. This was repeated the second time. At five o'clock, a lady who knew his family, but had never seen him before, was introduced to him. After he had left, she remarked to her mother, that she "would not live with that man for any consideration, as he had such a horrible expression." At six o'clock he was in his store attending to his business. A man went in and called for a beef-steak; Mr. Sargent said: "You can get it if I can cut it off for you, but my right hand and my arm to the elbow are so numb that I can scarcely use them." Owing to this "numbness" and his "feeling bad," he closed his store earlier than usual, and went home to bed.

His trouble increasing, at ten o'clock I was sent for. I found him in bed half reclining. He said that he was unable to lie down for fear he would suffocate. In this he was mistaken, for, upon my insisting, he did lie down and rested equally as well as when propped up by pillows. Every four or five minutes the spasmodic attacks would occur. They resembled precisely certain functional disorders of the heart. He had no fever, no thirst, no pain anywhere except a slight pain in the precordial region. He was perfectly rational, and only once did I notice a glaring of the eyes, and that speedily passed away. He complained of the numbness extending from his right thumb to the corresponding elbow. Taking into consideration the fact that he used tobacco to great excess, and had been to the funeral of his brother-in-law, I treated him as if he had nothing but functional disturbance of the heart. Ordered Hoffman's anodyne ʒi, to be taken in strong toddy

every hour ; also hot fomentations over the heart. At 2 A. M., Sunday, was called to see him again. He had taken two doses of the anodyne as directed, and complained that it choked him. I then gave him a strong toddy alone, about 3 ij. He swallowed with difficulty the half of it, but could not, by the strongest effort, succeed in forcing the rest down. I sat by him for an hour. The "smotherings" gradually increased in violence. The pain, or rather constriction, in the lower part of the œsophagus, had apparently been relieved by the hot fomentations. Still there was no excitement of the pulse, no pain, and *no thirst*. When the "spells" would come on he would start up in bed, seem as if he was trying to belch, and would spit once or twice, and then lie down. At 6 A. M. my father saw him for the first time. He found him suffering as I have described, only more intensely. When I say "suffering," I do not mean actual pain, from which he was entirely free up to the time of his death. My father advised him to get up from his bed, and walk his room. Complaining that he was warm, the door of his room was opened, and the very moment a wave of fresh air struck him he reeled back as if suddenly knocked on the head. His face had now become intensely congested. The course of the temporal artery could be easily traced with the eye. His eyes were bloodshot, and when the spasms came on two men could scarcely restrain him. Whenever he would feel the approach of one of the spasms he would cry out, "Hold me! hold me!" A large blister was ordered to the back of his head and neck ; and, as his bowels had been constipated, four compound cathartic pills were also ordered. He had great difficulty in swallowing the pills, although no water was used at the time. At 2 P. M. I saw him again, and would scarcely have known him, so great had been the change in the last twelve hours. I found him sitting in a low chair, his hands grasped by a friend on each side. He was restless and excitable, even in the intervals of the spasms, although perfectly conscious and rational.

The spasms now occurred every five minutes. I concluded that the man was a raving maniac (no one had suspected the real nature of the case up to this time), and concluded that I would try what is denominated "a quietus" in the Lunatic

Asylum, viz.: R potass. et antimon. tart. gr. ss; morph. sulph. gr. j; pulv. i—to be given at once.

I put the powder in a glass tumbler, poured in a little water, and approached him with it. As soon as he saw the water he had a spasm. Thinking he might break the tumbler, I poured the contents into a tin cup. He took it in his hand without looking into it, turned it up, and started to drink it; but the very moment the water touched his tongue he hurled the cup from him, and was seized with the most violent convulsions I ever saw. My father came into the room just at the time, and we made the simultaneous exclamation: "Hydrophobia!" It may seem to some of my medical friends a careless oversight that the disease was not recognized sooner. But there had been no case of the kind in the county for twenty-five years (if there ever was any at all), neither had there been any dogs supposed to have rabies; and lastly, neither my father nor I had ever seen a case before. I think that I, or any one else who had ever seen one case, would never fail to make a correct diagnosis, even in the very earliest symptoms. But, to proceed with the case. All the physicians in our city were immediately called in to see the patient. It was decided to give him chloroform by inhalation, not only for its intrinsic effect, but in order that other remedies might be tried while he was completely anæsthetized.

It was found impossible to administer the chloroform, the slightest vapor causing violent spasms; the attempt was made three times, but without the slightest effect. It was then proposed to give injections of ammonia, but this was not carried out. In the mean time he had been asked about the dog-bite, but denied it *in toto*. He knew that he had not been bitten; but, when asked the second time, the whole incident was remembered, and he himself described when, how, and where he was bitten, showing a slight scar on his thumb as proof of his assertion. When he realized his condition, he asked to see his family. His children came to his bed, he bade them "good-by," and said, "Children, I would like to kiss you before I go, but I am afraid of giving you this horrible disease;" also when persons were timid as to approaching him, he would say, "My God! don't be afraid of me—I won't hurt you for the

world ;" and neither did he at any time, even when under the influence of spasm, evince the slightest desire to bite or otherwise harm any one. It is true that he would not care where or upon whom he might spit. His throat had now become very dry, so that at times his voice would become a whistling whisper ; the saliva was very viscid and tenacious, and would have been colorless, except that he had bit his own tongue, which bled slightly. It now (5 P. M.) became evident that he was sinking rapidly from exhaustion. His pulse was about 120 and weak, but otherwise natural. The violence of the spasms, however, had not abated in the least. My medical associates had left me, and, for the first time in my life, I was compelled to witness a human being dying before my eyes, and I totally unable to do any thing to save him, or even to alleviate his condition. I had taken an endermic syringe over with me, and had sent for a physician to consult about the propriety of an injection of strychnine, but my patient began to sink very suddenly in one of his spasms, and I saw that he was dying. At 8.30 P. M. he died from exhaustion from the spasms, but his death was quiet, and at the moment he made not a single struggle. I observed in Braithwaite (1862) that a case of genuine hydrophobia had been cured by the use of electricity, but, as no name was given, consider the statement as unreliable. Was there ever a case really cured ? In Copeland's " Medical Dictionary " I notice that many experiments have been made to find out whether the saliva of a person laboring under hydrophobia was inoculable. Two French physicians claim to have successfully inoculated a dog with the human saliva, but many others who made the same experiment failed.

CASE II.—Reported by ELIHU BUTTS, M. D., Schaghticoke, New York.

On the night of the 25th of November, 1847, I was called to visit my nearest neighbor, at Northville, Fulton County, New York, a man about forty-five years of age, by occupation a farmer, named Cornelius Van Ness. His wife informed me that he had been complaining slightly through the day with what she supposed to be the effects of a cold, referring, besides,

to some peculiar sensation in the left leg. On offering him some herb-tea to drink, he had immediately gone into "spasms;" foamed at the mouth; appeared to suffer greatly from a sense of suffocation; had a peculiar and wild expression of the eyes, contortions of the face, and made hideous noises, until his jaw had become dislocated. I was suspicious, at once, that I had to do with a case of hydrophobia. After shielding my hands with a thick pair of buckskin gloves, I replaced the jaw without serious difficulty. Upon inquiry of the patient, who at this time was perfectly conscious and apparently desirous of communicating something of interest, I learned that he had been bitten in the left leg, just above the ankle-joint, nearly *twenty years before*, by a dog, supposed at the time to be rabid, but that he had always kept the fact from his wife, to whom he had been married five years later. The trace of the wound, though very slight, was still apparent. He seemed fully conscious of his situation during the intervals between the terrible and suffocating paroxysms which continued for seventy-two hours, when death came to his relief. Dislocation of the jaw occurred repeatedly, as he begged that no dressing might be placed about it that should impede respiration in the least. He desired no treatment, except that he might be kept from doing others harm, saying that he knew full well his disease, and that there was no help for him; that the matter gave him some little uneasiness for a few months after he was bitten, but that lately he had not thought of it until this attack.

I called in counsel the reputable and venerable Dr. Maxwell, of Johnstown, who agreed with me that it was a well-defined case of hydrophobia notwithstanding that nearly *twenty years* had elapsed since the virus was deposited in the system.

A loathing and perfect abhorrence of water, considered by most authors a pathognomonic symptom of this disease, was present from the first until death. Mr. Van Ness was not of a nervous temperament, but the very opposite—cool, calculating, of excellent mind, and highly respected.

CASE III.—Reported by F. B. PARMELE, M. D., Greenbush, New York.

On the 22d day of November, 1848, I was requested to visit Mr. Abraham Decker, a resident of the village of Bath, adjoining Greenbush, about one mile and a half from my office. I found him sitting up, apparently not very sick. He had been taken the night before with slight chills and headache; was restless and feverish during the night. He now complained of feeling very weak, had no appetite, pulse feeble and quick, skin hot and dry. I prescribed some purgative medicine, and a febrifuge to be taken at intervals, dissolved in water. On visiting him the next morning, I found that his symptoms continued much the same, having had no sleep and still suffering from headache and thirst. His medicine had operated well, but he had been obliged to discontinue the saline draught because it "choked" him.

He complained greatly of thirst, but said he could not drink water without strangling. I examined his mouth and throat, but could discover no reason why he should not swallow. His tongue was furred, but moist, and there was no appearance of irritation about the fauces. I prepared medicine in solution in water and offered it to him; the moment he reached out his hand to take the glass, there was a spasmodic grasping or catching for breath precisely like that which one exhibits when cold water has been suddenly and unexpectedly thrown in the face. Upon witnessing this symptom, I at once suspected the true nature of his ailment, and inquired if he had been bitten by a dog. He replied very positively that he had not. I asked if there had been any mad dogs about his neighborhood. He said no. After a little reflection, he told me that a favorite dog belonging to a neighbor had died some weeks before, in consequence, as his owner supposed, of having been poisoned, and that about the time the dog was taken sick he was playing with it as he had frequently done before, when the animal's nose came in contact with his lower lip with sufficient force to cause a slight abrasion of the skin. The injury to the lip was so slight that all trace of it disappeared in a few days, and he had not thought of it since. Now that his attention

was directed to it by my questions, he thought it felt a little sore. Upon examination, it appeared irritated and inflamed.

I felt satisfied from the history and from the symptoms that I had a case of hydrophobia to deal with, and fearing the occurrence of the dreadful spasms of which I had heard as being a usual accompaniment of this disease, I commenced giving him morphine in full doses every four hours. On the next day (Friday), he appeared much the same. He was quiet and thought he had slept some during the night; he had taken the morphine regularly by rolling up the powder in a bit of bread and swallowing it like a pill. There was no material difference in his symptoms until the next morning (Saturday), when at about nine o'clock, as his wife was attempting to feed him some oysters, he cried out suddenly, "Go away, Jane, I shall hurt you," and, catching hold of the bedpost, began wrenching it violently as though he felt an uncontrollable desire to exert his strength in powerful muscular efforts. From this time until his death, a few hours afterward, he was a raving maniac. The expression of his countenance, and especially of his eyes, betrayed the most furious rage and excitement. He imagined that he was driving a pair of unmanageable horses, and was endeavoring, by lash and rein, to bring them under subjection, bestowing upon them the most horribly profane epithets in as loud a tone of voice as he could command.

I saw him at 2 o'clock, P. M. He was confined in a small room about eight feet square. For safety, the bedstead and every article of furniture, except the bed and bedclothes, had been removed. Two strong men held the door, upon the outside, keeping open a small space, just sufficient to observe his movements, but no one dared to venture in. A strait-jacket had been provided, but, among a large crowd of people filling and surrounding the house, no one had the courage to attempt to put it upon him. They were all waiting for the doctor, imagining that it was his especial duty to expose himself to whatever risk there might be. To this I demurred, but volunteered with the help of two men to enter the room and endeavor to secure him in such a manner that he could not hurt himself or others. We accordingly made the effort. He resisted violently, and in the struggle was thrown upon the bed in such a

way that his face became entangled in the bed and bedclothes. His muscles suddenly relaxed, and upon releasing him he was found to be dead, whether from suffocation or exhaustion I was not positive. In this case there were no spasms excepting the affection of the muscles of the throat upon the effort to swallow liquids. He continued rational and quiet up to the moment that he became delirious. From that time until he died he was simply a maniac.

II.—*A Case of Cystic Disease of the Kidney, with Dilatation of the Ureter, and Atrophy of the Bladder.* By C. C. SHERARD, M. D., of Mobile, Alabama.

On the 23d of March, 1866, Mr. T. S. came into my office suffering with retention of urine. He stated that he had had frequent attacks of a similar nature, and that he was certain that the obstruction to the flow of urine was a clot of blood in the urethra. I introduced a No. 10 catheter, and encountered the obstruction in the membranous portion of the canal. After some little manipulation, failing to pass the instrument into the bladder, it was withdrawn, bringing away with it, entangled in the fenestrum, a clot of blood. This was followed by about three ounces of urine, and the urine by about two drachms of red blood.

Mr. T. S. was born in the State of Alabama, was thirty-one years old, and an engineer by trade. He was delicate and sickly from childhood, and had suffered for some thirteen years, namely, from the time he was eighteen years old, with attacks of what his physicians supposed to be hæmorrhage of the bladder. He had been obliged to pass water very frequently during both day and night—the quantity passed at any one time having been always small. As he advanced in years the hæmorrhage grew more frequent and distressing, the dysuria at the same time becoming more and more urgent. Eleven years before he had had an attack of constipation of the bowels, attended with convulsions. Nine years before he had had hæmorrhage from the lungs. For several years he had been troubled with vomiting.

Some four weeks after Mr S.'s visit to my office, I was called to see him at his residence. He presented a cachectic

hue, was very feeble, and had fever. He complained of great pain in the back, over the region of the left kidney. This pain seemed to extend upward, to cross over to the other side of the body, and then down through the right kidney, and along the right ureter, to the bladder and the prostate gland. He passed a few drops of blood from the urethra every few minutes, with a great deal of pain. He was vomiting frequently, the bowels were costive, and the tongue was furred over with a yellow coat. These symptoms grew continually worse, the pain being most intense in the left kidney and the prostate gland. After about ten days, in addition to the hæmorrhage from the urinary organs, which continued without abatement, he had hæmorrhages from the bowels, the mouth, the nose, and the ears. On the seventeenth day of my attendance, he died, with symptoms of uræmic poisoning.

Post-mortem Examination two Hours after Death.—The body was greatly emaciated, and covered with purple spots. The stomach, liver, spleen, and bowels, showed no abnormal changes. The left kidney—the constant seat of greatest pain—seemed also to be in a healthy condition. The *right* kidney was enlarged to double the natural size. The pyramids of Malpighi, and the whole tubular portions of the organ, were utterly destroyed, while the cortical structure was thickened and greatly distended. The whole kidney, in a word, presented the appearance of a multiple cyst—one large sac, divided first into two smaller sacs, and each of these two smaller sacs divided into four others still smaller, all communicating through the pelvis with the ureter. The right ureter was also greatly enlarged, being one inch and a half in diameter at its junction with the kidney, and one inch in diameter where it emptied into the bladder. The bladder was so much contracted as to hold only about two drachms of fluid; its walls were very thick, at least half an inch; and it was closely attached to the pelvic bones. The prostate gland was greatly enlarged.

In this case the sacculated kidney, and the dilated ureter, evidently performed vicariously the functions of the bladder as a reservoir of the urine, their joint capacity being about three ounces. The entire tubular structure of the right kidney

being destroyed, the whole labor of the urinary secretion fell upon the left kidney. The urine, thus separated from the blood by the left kidney, passed through the left ureter into the atrophied bladder, and then welled up, filling completely the dilated right ureter and kidney. The hydraulic pressure thus exerted must have extended also to the left kidney; and, doubtless, to this hydraulic pressure, added to the excitement from overwork, is to be attributed the intense pain exhibited by that organ.

The pathology of this disease is not very evident, but it may help to a probable solution to know that cancer was hereditary in the patient's family.

I saw during the late war a case in which the symptoms were very similar. A Confederate soldier had great trouble with his bladder, great pain, frequent micturition, hæmaturia, etc. The bladder was found, by exploration with the catheter, to be of very small capacity. He passed from under my care, and I never learned the termination of his case.

During my service in the Philadelphia Hospital an old woman was admitted for what was supposed to be ovarian dropsy. Her age and debility rendered an operation inexpedient, and she soon died. The *post mortem* revealed the fact that the tumor was not ovarian, but an immense sacculated kidney, containing half a gallon of fluid. In her case there was a bladder of normal size.

Proceedings of Societies.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Anniversary Meeting, October 4, 1869.

Dr. GEORGE T. ELLIOT, President, in the Chair.

THE sixty-fourth anniversary meeting of this Society was held as above.

The President announced the admission to membership of of Drs. A. Clark Corson, George H. Butler, Meredith Clymer, Woolsey Johnson, Stephen J. Clark, Edward C. Harwood, Charles S. Wood, and Frederick E. Hutchinson.

The minutes of the Comitia Minora for the past year were read.

The Report of the Library Committee was presented by its chairman, Dr. Brush.

The attendance being very small, owing to the attractions of Dr. McLane's introductory address in the hall below, the meeting adjourned to October 18th.

Adjourned Anniversary Meeting, October 18, 1869.

Dr. GEORGE T. ELLIOT, President, in the Chair.

The Treasurer, Dr. BIBBINS, presented his Report, which was accepted.

THE CASE OF DR. SCHOEPPE.

At the meeting of September 6, 1869, had been presented a communication from Dr. Schoeppe, bearing date July 3d, asking the opinion of the Society as to the justice of a conviction for murder upon the evidence presented at his trial, or rather, in a hypothetical case made up from that evidence; and a committee, consisting of Drs. W. B. Lewis, E. Noeggerath, and A. Flint, Jr., had been appointed, with instructions to investigate the subject, and respond to the communication in the name of the Society.

Dr. LEWIS, as chairman of this committee, now reported that the instructions had been promptly complied with; that a statement of opinion had been forwarded to Dr. Schoeppe, and acknowledged in a letter from him, dated September 14th. This letter was read, as also the report, as follows:

Statement of a Committee of the Medical Society of the County of New York, in relation to a "Hypothetical Case," presented by Dr. Schoeppe, and based upon the Testimony of the Witnesses during his Trial.

The papers forwarded by Dr. Schoeppe were presented at the stated meeting, September 6, 1869, the earliest moment practicable after their arrival, and referred to a committee of three, with power. The following is the result of their deliberations:

Abstract of the Evidence.—The only evidence in relation to the matter, examined by the committee, is found in four octavo pages of printed matter, entitled “Hypothetical Case based upon the Testimony of the Witnesses,” and “Chemical Analysis based upon the Testimony of the Witnesses.” It is therein shown that a woman sixty-five years of age, a frequent sufferer from vertigo, complained of illness thirty-three hours before her death. She was probably nauseated, since an active emetic was taken, which produced its legitimate result about thirty-one hours before death. Eight hours after this, or twenty-three hours before death, she became semi-comatose; coma was pronounced in about three hours more; and twelve hours before death paralysis of the right side of the face and tongue had supervened. Paralysis of the entire right side of the body is rendered highly probable by the position in bed, and the warmth and moisture of the right side, as contrasted with the coldness and absence of perspiration on the left. Both pupils were contracted. The patient remained in this condition until her death. The positive symptoms were these: old age, vertigo, “indisposition,” vomiting, semi-coma merging into coma, paralysis of right side of face, difference in temperature of two sides of body, and contraction of pupils.

That feature in this train of symptoms which must at once attract attention is the paralysis. Exclude this from the evidence, and the remaining signs would indicate either uræmic or narcotic poisoning. But with paralysis of *one side* of the body present, even more strongly than if it existed on both sides, poisoning by any medicinal agent is at once imperatively excluded. No drug, or combination of drugs, is capable of destroying the nervous power of a portion of the body situated at one side of the median line, while this power is retained by the corresponding part on the other side.

And yet this is precisely the condition which, lay witnesses have shown, obtained in the case above quoted. The right side of the face lost its nervous stimulus, and became incapable of resisting the normal power of the opposite muscles. These, therefore, dragged the mouth and nose toward the left. The tongue was in a similar condition. It is not necessary to refer to the remainder of the body, for, though it is probable that

hemiplegia existed, it would not strengthen our position were the proof complete.

That the symptoms were due to blood-poisoning consequent upon kidney-disease is possible, but not probable, since death from uræmia is commonly ushered in by convulsions. We have a much more likely cause in either softening or sanguineous apoplexy in the brain. The former is a recognized cause of all the symptoms in this case, and, upon inspection, the diseased organ may yield no other evidence of the change than a reduction of the normal firmness of the parts.

This brings us naturally to the autopsy, which was conducted in a deplorably negligent and unscientific manner. The examination of the brain revealed an absence of effused blood in the substance of the organ, and also from its superficial parts, unless the "large amount of blood in the cranium, the origin of which the examining physician could not tell," were clotted. This, however, is unlikely, both from the fluidity of the blood in other parts, and the fact that apoplexy was not therefrom suspected. A portion of the brain near the fourth ventricle was found to be softened; but twelve days after death, even in winter, a slight degree, at least, of such change might be expected. We therefore attach very little importance to this discovery. The arteries of this organ should have been carefully traced, since a coagulum forming suddenly in one or more of them would be likely to produce very sudden death, with vertigo, nausea, paralysis, and coma. The softened part should have been submitted to microscopical investigation. The heart should have been scrutinized with the utmost care, as to the condition of its valves and its size, and the arteries with regard to their coats. Especially in the kidneys of so aged a person should have been sought some explanation of the phenomena. All of these points were omitted, and we have the single item of positive intelligence, of questionable value, that softening existed.

To return—cerebral apoplexy is probably excluded, and we are brought to the conclusion that white softening or partial anæmia of the brain was the cause of death. With regard to the *post-mortem* appearances in this affection, we may quote from one of the highest authorities in matters of this nature,

Professor Niemeyer, who states that "partial anæmia of the brain cannot by any means always be definitely made out in the dead body. . . . On account of the difficulty of deciding whether a portion of brain has been anæmic during life, we should make it a rule to seek most carefully for any obstruction of the cerebral arteries, particularly of the *arteria fossæ Sylvii*, in any cases where the patient has died from a chronic brain-disease, or an acute one beginning with a sudden occurrence of hemiplegia, unless the autopsy gives some other satisfactory explanation of the symptoms. Before attention was called to the occurrence of this anomaly, autopsy, in cases of severe brain-disease with hemiplegia, often furnished nothing satisfactory."¹ The same author quotes Bamberger with deference, as expressing the opinion that it is wellnigh impossible, in cases of sudden death preceded by hemiplegia and coma, to predict whether sanguineous apoplexy or partial anæmia would be discovered upon examining the brain.

As may be inferred from the first quotation, white softening of the brain is due to the more or less rapid plugging of cerebral arteries by clots of blood or fibrin, which thus cut off the vascular supply, and produce death (necrosis) of the brain-tissue to an extent commensurate with the distribution of the artery or arteries involved. This may be caused by a diseased condition of the walls of the vessels of the brain, or by a plug coming from the heart or lungs.

The prominent symptoms which announce this condition are vertigo, which may have existed for many months, nausea, and finally paralysis, coma, and death.

It is therefore our opinion that the patient died from natural causes; judging exclusively from the "hypothetical case" presented to us.

WM. B. LEWIS, M. D.,
EMIL NOEGGERATH, M. D.,
A. FLINT, JR., M. D.

Voted that the above Report be accepted and placed on file.

Voted that the thanks of the Society be presented to the

NIEMEYER: Practice of Medicine, vol. ii., p. 179. New York, 1869.

Trustees of the College of Physicians and Surgeons for the use of their room during the past year.

ELECTION OF OFFICERS.

The following officers were elected for the ensuing year :

President, Dr. George T. Elliot; *Vice-President*, Dr. T. G. Thomas; *Recording Secretary*, Dr. A. E. M. Purdy; *Corresponding Secretary*, Dr. B. Howard; *Treasurer*, Dr. Wm. B. Bibbins; *Censors*, Drs. A. Jacobi, T. C. Finnell, E. Eliot, J. C. Peters, and E. B. Warner; *Delegate to State Society*, for one year, to fill vacancy, Dr. Wm. R. Whitehead.

Several amendments to the By-Laws, proposed by Dr. E. ELIOT at the last meeting, were now adopted.

FEMORAL ANEURISM CURED BY FLEXION.

Dr. GURDON BUCK presented before the Society a patient cured of femoral aneurism in the groin, and read a report of the case, the main points of which are, briefly, these :

Edward W., thirty years, Irish, admitted to New York Hospital June 24, 1867; had for five months previous suffered burning pain in the right groin, and about two weeks before admission had first noticed a pulsating tumor in that situation. Examination revealed an aneurismal tumor the size of half a hen's egg, over the femoral artery, just below Poupart's ligament. After some weeks of intermittent digital compression, an apparatus devised by Dr. C. M. Bell for compression of the iliac was applied, on 16th July, so as to arrest circulation through the sac. At the end of forty-eight hours the pressure was relaxed, and the next day it was removed completely, all pulsation in the tumor having ceased. The apparatus was not again required; and, when some ulcers caused by its chafing had healed, the patient was, September 12, 1867, discharged cured. The tumor was reduced to the size of a marble; there was no pulsation in the posterior tibial; and the limb was almost as useful as ever.

January 14, 1869, the patient was readmitted with a relapse of the aneurism, the first signs of which he had noted about eight weeks before. It presented nearly all its original features; but pulsation in the tumor was not affected by com-

pression of the iliac, in which no pulse could be felt, while it was arrested by deep pressure upon the femoral immediately below, and also by extreme flexion of the thigh upon the trunk. The treatment by flexion was at once instituted, and within a week a marked improvement was manifest, which progressed until February 1st, when the flexion was discontinued. February 4th, the patient was out of bed; on the 6th he was walking about; and on the 17th he was again discharged, the tumor, then small and firm, having given evidence of progressive consolidation. September 10th, the tumor, no longer visible, had shrunk to a flat, hard mass, and all abnormal sound had disappeared.

Dr. Buck reviewed the history of treatment by flexion, from its introduction by Maunoir, of Geneva, in 1858. The present case was the first on record of its application to femoral aneurism. Its *modus operandi* was partly by direct compression of the aneurismal tumor, but chiefly by indirect compression of the artery on the cardiac side, through the medium of the tumor. Though restricted in its application to aneurisms occurring in the flexures of the joints, it was still a most valuable addition to our therapeutical resources; and, being free from the dangers attendant upon other methods, it should, wherever applicable, claim the first trial. In the course of his researches upon the subject, he had found a case reported (of popliteal aneurism) in which flexion of the limb was maintained by a suspension-apparatus that allowed the patient to keep out of bed during the treatment.

Dr. JACOBI called attention to a recent paper upon the stoppage of hæmorrhages by flexion of the limbs.

Dr. SALVATORE CARO.—I regret, Mr. President, that I cannot present the documents that would establish the priority of the treatment by flexion in favor of my old professor, Dr. Giovanni Gorgone, of the Civic Hospital at Palermo. In 1846-'48, this was his customary method of treatment in all aneurisms where it was applicable. In 1847, occurred a case which I well remember, as I was then house-surgeon at the Civic Hospital. A young man, a tailor, having a headache, had gone to a professional phlebotomist to be bled. Instead of opening a vein at the elbow, the operator opened the artery;

and, not knowing what else to do, he strongly flexed the limb, and, tightly bandaging it, sent the patient to hospital. An aneurismal tumor was found, about the size of a large walnut. The pulsation in it was entirely stopped by forcible flexion of the forearm. This treatment was adopted, and the patient was completely cured. On the 24th of January, 1848, after the capture of the palace of King Bomba, this hospital was destroyed by fire, together with all its records; and for this reason I am unable to give documentary evidence upon this matter. But, to my personal knowledge, the treatment by flexion goes as far back as 1847.

ULCERATED SCIRRHUS OF BREAST HEALED UNDER TREATMENT.

Dr. F. A. BURRALL read the history and presented photographs of a case which he had shown, in person, at the reunion of the Medical Journal Association, October 8th, where it had been examined by many surgeons. We give an abstract of the paper (which appears in the *Medical Record* of November 1st), and incorporate, in our report of the discussion upon it, the remarks made at the above-mentioned meeting of the Journal Association:

Ellen Victory, Irish, aged forty-two years, married, but has had no children, menstruates every two or three months. Generally healthy until about three and a half years ago, when she noticed a lump like a pea in the left lower part of the right breast. This increased, and a year and a half ago ulcerated. In May, of this year, patient came under Dr. Burrall's care, at the Northern Dispensary. The tumor then filled the greater part of the breast, and was of scirrhus hardness, especially on the axillary side. Axillary glands enlarged. The breast was movable on subjacent parts. Along its lower border ran an ulcer four or five inches long by half an inch in breadth and depth, discharging fetid pus. Patient had lost strength, suffered severe pain, and had occasionally profuse hæmorrhage.

The case, seeming too far advanced for operation, was treated locally by the following lotion, which the patient had been previously using: \mathcal{R} acid. carbolic. $\text{f}\text{3}\text{ij}$, glycerin. $\text{f}\text{3}\text{ss}$, aquæ Oj. M. Ft. lotio. About the end of May inter-

nal treatment was begun, by doses of one drop (=gr. ss of the crystals, soon increased to three, and afterward to four, drops) of carbolic acid, together with two grains of sulphate of quinia in acid solution, three times a day. The pain soon became less acute, the hæmorrhages less severe, and the discharge less profuse. But not until the beginning of August was there noticeable a very slight softening of the indurated upper portion of the tumor. During the summer several small pinkish tubercles formed upon the upper part of the breast near the nipple, ulcerated, coalesced, and afterward healed, leaving serpiginous, slightly-depressed, pinkish cicatrices and slight retraction of the nipple. These tubercles resembled Pemberton's description of "superficial scirrhus."

September 25th, all the ulcers had healed, the largest leaving a white, puckered cicatrix, about four inches long; all discharge had ceased for five weeks. The tumor was reduced to one-third of its former size, still very hard on its outer border. Axillary enlargement and induration had disappeared. Three of the little superficial tubercles remained on the breast, but were fading. A yellowish scab still adherent to one of the cicatrices, and a small amount of chocolate-colored exudation scraped from the bottom of another, were placed under the microscope, and gave appearances characteristic of scirrhus. The patient felt well, and had resumed labor as a washer-woman. The internal administration of carbolic acid and quinine, which had never disagreed with her, was continued in diminished doses. October 16th, the case was still progressing favorably; the tumor had become still smaller, and gave no pain to interfere with sleep.

The desiderata in the treatment of cancer were to relieve the cachexia, and to check, if possible, the excessive cell-growth. It was noticeable that, in this case, all the articles employed, both for local and for internal exhibition, were antizymotics, while the sulphate of quinia and the sulphuric acid used to dissolve it were also tonics. Whether the favorable result was due in any degree to their action, or was a mere coincidence, must be determined by further trials of the treatment; and these the rarity of such coincidences in this disease would certainly seem to justify.

Dr. SAYRE thought the case one of unusual interest, though the exact nature of the tumor seemed not to be positively made out. While it exhibited some of the features of cancer, it lacked others. The retraction of the nipple, for instance, was either absent or hardly noticeable. He had never before seen any thing like the three little nodules upon the upper part of the breast.

Dr. WHITEHEAD was Dr. Burrall's colleague at the Northern Dispensary, and had seen the patient when she first applied there. He had then satisfied himself, from the appearance and feeling of the tumor, the axillary enlargement, the woman's expression, and the history of the case, that the breast was invaded by a malignant growth; and he had strongly urged its amputation, but the woman refused. He had then lost sight of the case, till Dr. Burrall had called his attention to the cicatrization of the ulcers. To the retraction of the nipple, as a diagnostic mark, Dr. Whitehead attached less weight than did many of the text-books, though it had some value. It was apt to be best marked in a special atrophic form of cancer, attended by cancerous deposits in the long bones and the vertebræ.

The PRESIDENT had seen the case at the last meeting of the Pathological Society, and had no doubt whatever with regard to its character.

Dr. BURRALL regarded the three pimples, referred to by Dr. Sayre, as abortive ulcers. The large, irregular, superficial cicatrix on the upper part of the breast was but the record of an intercurrent ulceration that had started from just such pimples, and attained its final size and appearance from the coalescence of their small circular ulcers. He had at first suspected this case of being one of atrophic cancer; but, according to Holmes, that form rarely or never reached a greater size than that of a pigeon's egg. The retraction of the nipple, from the drawing down of the milk-ducts, though a common sign, was regarded by most authors as by no means a necessary and constant one. The microscopic appearances were essential to a complete diagnosis; and these, in this case, clearly showed a heterologous growth. The speaker had supposed his treatment original, but had just been informed by Dr. Weisse that simi-

lar experiments had been made in Paris, by Dr. Déclat, with happy results. There were several important points of difference between Dr. Déclat's cases and his own; but the common point was, that carbolic acid was used both locally and internally in the treatment of malignant disease.

Dr. WEISSE stated that Déclat had, in 1865, published a work on new applications of carbolic acid, in which he mentioned two cases of cancer of the tongue treated by this agent, and ten cases whose treatment was not then completed. He had since issued a work, giving reports of thirty-nine cases of cancer of the tongue, twelve of them of doubtful diagnosis. His local treatment consisted in applying, in spray, to the ulcerated surface a solution of five parts of the crystallized acid in ten parts of alcohol and one hundred of water. In some cases, where a whitish film covered the ulcer, he employed a caustic solution of equal parts of the crystals and absolute alcohol. Internally, he gave a solution of one part of the acid in two hundred of simple syrup, a fluidrachm every three or four hours. If this quantity produced nausea, as was sometimes the case, the dose was diminished. The remedy acted as a local anæsthetic, promoted sleep, and improved the appetite. Sometimes, when the patient was in bad condition, he gave the bicarbonate of potassa or soda, in conjunction with the carbolic acid, following the recommendation of Broca. Occasionally, also, he combined with the acid the arsenite of soda or the bichloride of mercury. By this treatment, Dr. Déclat had succeeded in curing all the doubtful cases, and ten out of fifteen cases where the diagnosis was positive. In five of these latter the treatment failed completely. In two of the ten undoubtedly cancerous cases, relapses occurred, which were successfully met by the same treatment. In some of the cases clearly diagnosticated, the treatment was continued for a year and upward before the cure was pronounced complete.

Dr. BUCK hoped to see the treatment extensively tried, and suggested that such physicians as did not care to pursue it themselves, might be able to throw further opportunities in the way of Dr. Burrall.

The Society adjourned.

Stated Meeting, November 1, 1869.

Dr. GEORGE T. ELLIOT, President, in the Chair.

THE PRESIDENT, on calling the meeting to order, made the following address :

GENTLEMEN : The distinguished honor of a unanimous reelection to the office of President of this Society has been conferred upon me by your votes, notwithstanding the statement of my earnest conviction that the principle of rotation in office would best promote your interests. Such a spontaneous expression of confidence and good feeling from a Society numbering over three hundred resident members, of whom an average of one hundred are in regular attendance at the meetings, is an honor to which no one could be indifferent, and for which I avow myself grateful.

Animated by the same thoughts expressed in my first inaugural, and sustained by your encouragement, it will be my endeavor this year to extend still further the usefulness of this Society, jealously to guard its time and opportunities, to add to its numbers, and to excite an honorable emulation among its members for its and their advancement.

I shall still seek to persuade those of large experience to lay before you the golden fruit of their ripe reflections ; I shall still encourage the diffident to uncover that talent which lies buried in the napkin, and to use it for the benefit of our profession and mankind ; I shall always remember that this cosmopolitan city is the arena where, from all parts of our common country, and from abroad, men come to struggle for the highest prizes ; and shall endeavor impartially to recognize the duties of hospitality, to interweave and strengthen existing bonds of union.

Let us all strive to advance the time when the massive mural crown of gold, which typifies the solidity and wealth of this commercial city, shall be pointed to with greater pride as the setting for the precious jewels of learning ; when the atmosphere of the warehouse and counting-room and factory shall still further feel the bracing and beneficent influence of the

“difficult air from the keen mountain-top” of knowledge ; when the professions shall once more take their fit and proper rank and places ; when divinity, purged from the defilement of struggle for wealth and ease, shall lead the earnest ranks through the temptations of time to the happiness of eternity ; when law, with unstained ermine, prompt to defend and swift to pursue, shall emulate on earth the majesty of celestial justice ; when the sacred legion of medicine, battling for the welfare of mankind, and intent on highest aims, shall stand in bright and recognized contrast to that despicable horde of camp-followers and pretenders now so often intermingled with its ranks as only to be distinguished by the members.

A great practice, accumulated wealth, and popular renown, are not the chief tests for the true physician, who knows that all these may coexist with ignorance, pretension, and deceit. The highest reputation is based on the judgment of the profession, while this judgment is motivated by the proofs which the aspirant can give, and these can only be given in the hospital wards, the professorial chair, the medical societies, the medical journals, and the medical press.

Let no man complain that he has not an opportunity and a chance. Until recently the difficulty has been for editors of journals, presidents of societies, and medical-book publishers to persuade the profession to enter the avenues to true distinction opening before them ; and even yet the President of this Society has had no holiday task. But the times are improving ; the societies are filling ; men are more willing to do what is their duty to themselves and to their profession ; the young begin to see that their rapid advancement depends on the right use of these opportunities ; the old find, in published papers and in records of debate, evidences of talent which allow a wider selection from competitors for places than had been given in the more limited range of a personal acquaintance.

The profession is developing a higher and a nobler vitality, which must culminate in the greatest reverence for learning, and its practical applications will cease to be the sole desiderata. Slowly but surely these changes must come, and the wonderful alterations in the medical status of New York,

during the last quarter of a century, foreshadow the hastening influences of the future.

During the year to come, let us each and all do our share in the work before us. Men die, but their recorded experience and judgments live. Familiar faces soon moulder in the dust, familiar voices soon are hushed forever; that personal experience and that ripe judgment which we seek and value—if not recorded—die with their possessor, and the gathered treasures of a lifetime of thought and observation, more durable than monumental brass, are lost to the world.

Some plead, in extenuation, that lack of time which has very rarely truthfully prevented the production of a written paper, for it is not necessary that such a paper shall be produced within a given limit of time. Some defer the task until they shall arrive at the limit of their experience, but experience is illimitable and bounded only by death, for whatsoever we learn only teaches us what next to study.

The young may say that they have as yet learned nothing of great importance from their limited opportunities, but they are the very ones who should bring together the widely scattered records of the experience of others on imperfectly understood topics; while all may give the Society the encouragement of their presence, and contribute in debate such thoughts of value as the paper of the evening may suggest.

And now, in memory of the year which has gone, and as an encouragement for that which is to come, let me conclude by reading a synopsis of last year's work, with the hope that we may surpass it in amount and equal it in value.

November Meeting, 1868.—Paper by Dr. Van Buren, "On Some Points in the Treatment of Stricture of the Urethra." Discussion by Drs. James R. Wood, J. W. S. Gouley, Gurdon Buck, Robert Newman, Benjamin Howard, A. J. Chadsey.

December Meeting.—Paper by Dr. J. Marion Sims, on "The Relations of the Microscope to the Treatment of Sterility." Remarks by Dr. Peaslee and others.

January Meeting, 1869.—Paper by Dr. W. A. Hammond, on the "Physiology and Pathology of the Cerebellum." Remarks by Drs. J. C. Dalton, A. Flint, Jr., and Neftel.

February Meeting.—Paper by Dr. T. A. Emmet, on "The

Surgery of the Cervix, in Connection with the Treatment of Certain Uterine Conditions familiar to all." Remarks by Drs. Noeggerath, Budd, Peaslee, Isaac E. Taylor, Roberts, the President, and Vice-President.

March Meeting.—Paper by Dr. F. D. Weisse, on "Mr. Lister's Antiseptic System of Treatment in Surgery, with Demonstrations of his mode of Dressing Wounds." Remarks by Drs. Squibb, Jacobi, Chadsey, Smith, Stein, and Chamberlain.

Adjourned March Meeting.—Paper by Dr. D. H. Goodwillie, on "Nitrous Oxide and some of the recently-introduced Anæsthetics; with Demonstrations." Remarks by Drs. Post, Peaslee, Bulkley, Roberts, Bibbins, Kennedy, Newman, and the President.

April Meeting.—Paper by Dr. George A. Peters, on "Acupressure." Remarks by Drs. Buck, Post, Krackowizer, Hutchinson, Little, Peaslee, and Howard.

May Meeting.—Paper by Dr. A. Flint, Sr., on "The Prognosis in Bright's Disease." Remarks by Drs. Knapp, Newman, G. M. Smith, Neftel, A. H. Smith, Peaslee, Hanbury Smith, Caro, Stone, O'Sullivan, and the President.

June Meeting.—Paper by Dr. Salvatore Caro, on "The Treatment of Summer Complaints by Bromide of Potassium." Remarks by Drs. Calkins, Garrish, Chadsey, Kennedy, Farnham, and the President.

September Meeting.—Paper by Dr. H. D. Noyes, on "Defects of Form of the Eyeball, causing Defects of Sight." Illustrated by the Magic Lantern. Remarks by Drs. Buck, Roosa, and Knapp.

October Meeting.—Sixty-fourth Anniversary Meeting.

Number of new members	43
Number of resident members	323
Average number present at each meeting.....	100
Number of deaths	6

Viz.:

John W. Sheppard,
Robert H. Maclay,
H. N. Wilhelm,

John O'Reilly,
Alex. H. Stevens,
Henry D. McCartin.

THE PRESIDENT announced the admission to membership of

Drs. J. Ackerman Coles, Justus J. Spreng, Luis F. Sass, and Rufus P. Lincoln.

He also announced the death, in Brooklyn, October 17, 1869, in the eighty-fifth year of his age, of Dr. James L. Phelps, a member of the Society since July 6, 1812.

Next was announced the appointment of the following standing committees for the ensuing year:

STANDING COMMITTEES.

Committee on Library.—Drs. H. Mortimer Brush, E. H. M. Sell, R. J. O'Sullivan.

Committee on Intelligence.—Drs. Alfred Underhill, Charles Carroll Lee, Robert Newman, John Shrady, Frederick A. Burrall, Meredith Clymer, Frederick G. Snelling, Andrew H. Smith, A. D. Rockwell, Wm. T. Lusk, Bradford S. Thompson.

Committee on Meteorology.—Drs. William F. Thoms, Daniel H. Goodwillie, Everitt Herrick, Alonzo Calkins, Iretus G. Cardner.

Committee on Diseases.—Drs. Samuel T. Hubbard, Elisha Harris, William B. Neftel, Charles A. Leale, James B. Nelson, Henry G. Piffard, Robert R. Gibbes, Marcus P. Stephenson, Howard Pinkney, Moreau Morris, Truman Nichols, Samuel A. Raborg.

Committee on Finance.—Drs. William B. Bibbins, William T. White, Edwards Hall, Cornelius E. Billington.

CHLORAL.

Dr. A. JACOBI read a paper upon the new anæsthetic, *The Hydrate of Chloral*, exhibiting a specimen of the drug, and demonstrating its effect upon a living rabbit.

Chloral was discovered by Liebig in 1830, as the final product of the action of dry chlorine upon ethylic alcohol. It is a thin liquid, of specific gravity 1.502, gradually turning thicker, and sometimes becoming insoluble. On mixing it with water, heat is developed, one equivalent of water is taken up, and presently acicular crystals of the hydrate appear. These can be melted down into a solid crystalline mass, white or colorless, soluble in water, having a peculiar melon-like odor. Its watery solution, if mixed with an alkaline solution, becomes milky, and then clears up, depositing chloroform at the bottom of the test-tube. For physiological experimentation the hydrate should be perfectly pure, in aqueous solution.

Its effects upon the animal economy have recently been in-

vestigated by Liebreich,¹ who experimented first upon frogs and rabbits, and afterward upon the human subject. They are supposed by him to depend upon the gradual evolution of chloroform in the blood, owing to the alkalinity of that fluid; and, in many respects, they closely resemble the effects of chloroform. Given hypodermically, or by the stomach, the hydrate of chloral acts as a powerful hypnotic and anæsthetic. The action is slower than that of chloroform by inhalation, and much longer continued. According to Liebreich, the dose by the mouth is four or five grains in the new-born, and forty grains or more in the adult, inebriate and insane patients requiring larger doses, as with opiates. He thinks the dose for subcutaneous injection is hardly less, but from this Dr. Jacobi's experiments lead him to dissent. It is a local irritant, and its internal use is contraindicated by gastric or laryngeal inflammatory conditions. Under moderate hypnotic doses of twenty-four grains, Liebreich's observations show that the pulse and respiration behave as in normal sleep, that no nausea or headache follows, and that it can safely be given in heart-disease. Both his experiments and Dr. Jacobi's prove its efficacy in many cases where morphia is either useless or not tolerated. The experience of Dr. Ogle (London *Lancet*, October 16, 1869) is to the same effect. As a surgical anæsthetic, this substance is not likely to supplant chloroform, owing to the difficulty of determining the dose in individual cases, and of regulating the effect to satisfy immediate indications. In Dr. Jacobi's hands, however, the faradaic current had proved an efficient antidote to its excessive action.

Demarquay, in his report to the Paris Academy, September 6, 1869, states that the drug causes dilatation of vessels and injection of mucous membranes, like that from section of the sympathetic; that it diminishes the temperature; produces hyperæsthesia, rather than anæsthesia; differs essentially from chloroform in its effects; and does not owe these to the evolution of chloroform in the blood. Some of these positions Dr. Jacobi considers disproved by the experiments of Liebreich and

¹ Dr. OSCAR LIEBREICH: *Das Chloralhydrat, ein neues Hypnoticum und Anæstheticum, und dessen Anwendung in der Medicin.* Berlin, 1869.

of Richardson. A condensed account of Richardson's experiments was given from the *Medical Times and Gazette*, of September 4, 1869. They showed, among other points, an extraordinary decline of the animal temperature and of the frequency of respiration, in birds and rabbits under the influence of the hydrate; a pretty long period of drowsiness or sleep, but a comparatively short one of total anæsthesia, followed by heightened sensibility; in birds, vomiting invariably before going to sleep. A careful comparison of the effects of the hydrate with those of several other anæsthetic compounds of chlorine (chloroform, bichloride of methylene, tetrachloride of carbon, chloride of amyl), revealed an identity between its narcotic action and that of chloroform administered in the same manner (hypodermically), leading to the inference, otherwise corroborated, that this action is due to the liberation of chloroform in the organism. It appeared to affect first the volitional centres, next the cord, and lastly the heart. Added to blood, it produced shrinking of the corpuscles, and, in excess, exerted a decomposing action like that of formic acid.

Next were given, in detail, Dr. Jacobi's own observations upon rabbits under the action of the drug, which was injected in one case into the subcutaneous cellular tissue, in another into the femoral vein. Also reports of five cases, some of them very severe, in which he had administered the remedy as a hypnotic in the human subject—four of them attended with the happiest results; the fifth showing a single unpleasant symptom, pain in the ears, apparently due to the irritant effect of the drug, insufficiently diluted, upon the mucous membrane of the throat, which was chronically inflamed.

In conclusion, Dr. Jacobi expressed his belief that this new remedy would prove an addition of the highest value to our therapeutical resources. To future investigators, he proposed the questions: Why did Richardson meet with vomiting, when neither Liebreich nor himself had done so? Would the hydrate reduce the temperature of a sick animal as surely and steadily as that of a healthy one, and so prove a febrifuge perhaps superior even to quinine? What was the proper antidote to a poisonous dose? was it the induced current?

Dr. J. C. PETERS said that, in rising to speak, he labored

under the great disadvantage of having made no experiments with the substance in question; indeed, the only ones thus far made in this country were those of Dr. Jacobi, who had, moreover, referred to nearly all the published experience on the subject except that of Spencer Wells. This surgeon had employed it in the removal of a large fibroid tumor of the uterus. He was convinced of its value for the relief of pain and the reduction of temperature, without producing nausea or other unpleasant symptoms. The substance was not as yet manufactured here, though Caswell and Mack had it in the course of preparation. (A liquid specimen, and one imperfectly crystallized, were shown.) An important point in its administration by the stomach was, to give it in considerable water, together with syrup of orange-peel or something of the kind. In this form children would readily take it.

In the introduction of the hydrate of chloral, Liebreich had aimed at avoiding the bad effects of other narcotics and anæsthetics, particularly opium and chloroform. But we were already in a better position for using morphine without such effects than even a few weeks ago. Two chemists, Matthiessen and Wright, had succeeded in depriving this agent of its emetic principle, and obtaining a substance, *apomorphine*, that gives the desirable narcotic effects without nausea and headache. Then, too, we were learning to use chloroform hypodermically, and so to escape those evils which, as Dr. Jacobi had shown, are dependent upon its irritant action on the mucous membranes. Some of Richardson's experiments, in proof of its safe employment thus, had been alluded to, and his results were corroborated by those of Dr. Charles Hunter. Richardson decidedly preferred it to hydrate of chloral for subcutaneous injection. Neither of these gentlemen had found it produce abscess, or even noticeable irritation, of the skin or subcutaneous cellular tissue. But others had failed, and got the abscess without the anæsthesia. It must be regarded as pretty well proven, by Liebreich and Richardson, that the effects of the hydrate of chloral were due to its liberation of chloroform in the blood. But there was the difficulty that formic acid is liberated at the same time, and formate of soda produced.

Used in large amount, the drug caused almost irreparable injury to the blood, by the destruction of its corpuscles.

The *bichloride of methylene* was now being extensively tested in Guy's Hospital; Mr. Rendle, in the ophthalmic wards, was using it exclusively in all his operations, which, being mostly confined to the eye, were commonly brief. In his first set of cases, twenty in number, he found anæsthesia less readily produced than by chloroform, and a larger quantity of the substance required. As it was still dearer than chloroform, this was an important point. He then invented an inhaling apparatus, by means of which he was enabled to bring the patients rapidly under the influence of the bichloride; and in his second set of cases, numbering one hundred and twenty-three, he had found one drachm sufficient to produce anæsthesia, and maintain it for five minutes; in no case was it kept up beyond fifteen minutes. A noticeable feature in these cases was the entire absence of muscular excitement. But vomiting occurred in fifteen of them. One or two showed some signs of collapse, but speedily recovered under a very simple procedure, always employed in such cases in Guy's Hospital, and, whatever its *rationale*, said to be uniformly effective; it consists merely in turning the patient slowly over on to the left side. The advantages, claimed for the bichloride by Mr. Rendle were, that the patients can be rapidly and completely anæsthetized; that they as rapidly and completely recover; that they retain their normal color and appearance; and that they never die from the anæsthetic. Unfortunately, the next numbers of the journals contained the report of a death from the bichloride of methylene, though administered by the experienced hand of Dr. Peter Marshall. The patient was much reduced by malignant disease.

Dr. Harley had found that the juice of *conium*, in large doses, produces complete muscular relaxation; that it can be given thus with perfect safety; and that then a very small dose of opium will produce a decided effect. Thus large doses of opium can be dispensed with; for the conium causes no nausea or after-prostration, and the patients speedily recover from its action. Another point brought forward by Harley was, that, by the use of one ninety-sixth or one forty-eighth of

a grain of atropine for subcutaneous injection, in combination with morphia, nearly all the bad effects of the latter are prevented. [Brown-Séquard has long followed this practice. See *Medical Record*, vol. i., pp. 226, 227.]

All these faithful experiments, which, for the last twenty-three years, had been made in the search for the safest and most effective means of giving relief from pain, would seem to be but efforts for the recovery of a lost art. We were all familiar with the significant passage given in Stillé's *Materia Medica*, from the *Natural Magic* of Baptista Porta, who says of a certain substance, that its vapors plunge one into the most profound sleep, whence he cannot be aroused without the greatest effort, and that, after the sleep, no bad effects remain. This substance was conjectured to have been ether. Lately one of the most accomplished gentlemen of this city, who, at the age of eighty-four years, still kept up his interest in every thing good, had called the speaker's attention to a passage in Middleton: "I will imitate the pities of the old surgeons, who, before they plied their art, lulled you to slumber, then cut the diseased part." Middleton was contemporary with Shakespeare.

Dr. McCREADY, being called upon, said that he had no experience with the hydrate of chloral; but, since he had seen so many new remedies fail to fulfil the expectations they had at first raised, it was but prudent to suspend judgment with regard to the merits of this. Chloroform was used a long while before it was found out that it damaged the stomach, spoiled the blood, and left behind it bad effects that might require days or weeks to overcome. Liebreich, however, who already stood as one of the first medical chemists in the world, should receive all credit for his careful experiments. It seemed remarkable that the feeble alkalinity of the blood should be able to liberate the chloroform from the hydrate of chloral, and Richardson's experiments with blood outside the body appeared to have been rather loosely conducted. If it were true that this reaction took place, and that the effect of the drug was due solely to the chloroform so liberated, why was this effect so much more powerful than that of chloroform itself? According to Richardson, two grains of it were equivalent to seven of chloro

form, though they would yield but one grain and one-third. The extraordinary decrease of temperature under its action would apparently indicate an arrest of chemical action in the body, for animal heat was now recognized as a purely chemical phenomenon.

Dr. PERCY had almost always got vomiting from chloroform when administered after eating; with an empty stomach it was less likely to occur. The powerful action of the chloroform, evolved from the hydrate of chloral in the blood, might be explained by the fact that it produced its effects in the nascent condition, in which it was well known that nearly all chemical agents showed the strongest reactions.

Dr. JACOB, in reply to Drs. Peters and McCready, said that a very weak alkaline solution, no matter of what alkali, was sufficient to produce the evolution of chloroform; and although, as a part of the reaction, the formates of soda and potassa were necessarily formed in the blood, yet these were immediately decomposed and transformed into harmless products.

The PRESIDENT had seen Spencer Wells remove a large mass of glands from beneath the pectoralis major of a patient anæsthetized by bichloride of methylene. Mr. Wells had told him that he used this anæsthetic almost exclusively, preferring it to chloroform, as producing less nausea, though it seemed to him no more rapid in its action. At Edinburgh, the speaker had been asked by Sir James Simpson to try the nitrate of amyl, and he had done so, inhaling two drops of the liquid placed on blotting-paper. The effect was very distressing, the prominent feeling being that of extreme distention of the head. But the most remarkable phenomenon attending its action was the sudden and intense injection of the capillaries. This had been especially well seen when the drug was tried upon a lady-patient, with arms and bust fashionably exposed.

The Society adjourned.

Reviews.

ART. I.—*A Text-Book of Practical Medicine, with Particular Reference to Physiology and Pathological Anatomy.* By Dr. FELIX VON NIEMEYER, Professor of Pathology and Therapeutics, Director of the Medical Clinic of the University of Tübingen. Translated from the seventh German edition, by especial permission of the Author, by GEORGE H. HUMPHREYS, M. D., etc., and CHARLES E. HACKLEY, M. D., etc. New York: D. Appleton & Co. 1869. 2 vols., pp. xv.—731, viii.—770.

DURING the last decade, there have appeared a number of very valuable works on the practice of medicine. In our own tongue, the works of Aitken and Flint, and later the as yet incomplete "System" edited by Reynolds, have given a concise statement of the present condition of medicine in England and America. The late Dr. Bazire attempted to place in the hands of that part of the profession whose reading was confined to English, a translation of the well-known *Clinique Médicale* of Trousseau. To complete the circle of what may be deemed representative works, we have now the book under consideration. How great a value has been placed upon the work in Germany, will be inferred from the fact that, within ten years from its first appearance, seven editions have been demanded. The earlier editions have been somewhat known in this country, either in the original or by means of the French translation. The last edition contains very material additions and improvements, and is brought up to the present year; and, in rendering this available, the translators have conferred upon the profession at large no small favor.

The first inquiry in this country regarding a German book generally is, Is it a work of practical value? Without stopping to consider the justness of the American idea of the "practical," we can unhesitatingly answer, It is. True, the designation, "with particular reference to physiology and pathological anatomy," suggests a style of book, not uncommon, in which the reader, toiling through a mass of useful but inapplicable information, finds at last nothing which makes him better able

to manage the cases which tax his skill. The book makes constant requisition upon these sciences, but always with the object to explain what is the disease, and what are its symptoms, and to point out the consequent therapeutical indications. We can recall no work where the explanation of symptoms is more satisfactory. It would, however, be a mistake to suppose that the treatment of disease advocated in the work consists of deductions from the laws and facts of physiology and pathology. On the contrary, the author expressly claims the animating idea of his labors to have been the advancement and elaboration of empirical therapeutics, believing it "idle to hope for a time when a medical prescription should be the simple resultant of a computation of known quantities." By carefully recorded and analyzed clinical experience, time-honored beliefs, both popular and professional, can be justly examined, and condemned and discarded, or confirmed and brought into universal use, according as they shall deserve. Toward this end something has already been done, and in the direction indicated must all successful therapeutical research be made.

In addition to an unusually full catalogue of medical diseases, the work includes several classes generally excluded from "practices," as belonging more properly to surgery, obstetrics, or other specialties, such as diseases of the bladder, urethra, and male sexual organs; of the ovaries, etc.

The progress of medical science is so rapid, and the labor of preparing a text-book so great, that one would hardly expect to find in such a work many points of interest that had not been anticipated by periodical literature. If a systematic work can fairly be said to be abreast of the time, it is great praise. This, certainly, is due to the book, and more, for it contains very much that is novel.

Throughout it are many points to which we should be glad to call attention; but the limits of this notice will prevent our instancing any, except a few in the division upon respiratory diseases, which section possesses particular interest, from the peculiarity of Professor Niemeyer's views. In regard to croup the author does not accept the recently-urged idea of its unity with diphtheria, but bases his belief in their

duality upon the anatomical distinction said to exist as regards the deposition of the membrane. In explanation of the dyspnœa, he discards the idea of spasm, as "contradictory to pathological and physiological fact." The "pathological fact" is thus stated: "In all severe inflammations of mucous and serous membranes, we find not only the submucous and subserous cellular tissues, but also the muscles covered by the inflamed membrane, infiltrated with serum, sodden and pale. Even *a priori*, it is not to be supposed that muscles in this condition should be capable of a spasmodic contraction, and Rokitsansky declares his opinion, from a pathological point of view, that 'the infiltrated, pale, relaxed muscular tissue in croupous inflammation, is stricken with palsy.'" He strengthens his position by citing the physiological experiment of section of the par vagum in young animals which produces croup-like symptoms, and by direct laryngoscopic observation of the action of the laryngeal muscles. The paralyzed muscles being unable to keep open the chink of the glottis, inspiratory dyspnœa is the result. Obstruction causes, in addition, expiratory dyspnœa, and emetics can be of no service unless this last symptom be present. Even in false croup he esteems the symptoms often attributed to spasm to be due to the adherence to the glottis of the tenacious secretion of catarrhal laryngitis, the paroxysm ceasing when this is removed by emetics or coughing.

A peculiarity of the work is the frequency with which diseases classed as catarrhal and croupous appear. Not only in the larynx, as above noticed, but croupous pneumonia, is the title of the ordinary form of pneumonia, catarrhal pneumonia of broncho-pneumonia. The author suggests the name croupous nephritis for acute Bright's disease, but does not insist upon it, as he admits the uncertainty of the identity of matter found in the uriniferous tubules with the laryngeal membrane.

Collateral fluxion is the title of one of the forms of pulmonary hyperæmia, which the author thinks to have been too lightly considered. It is the determination of blood to the sound part of the lungs when the circulation through any considerable portion of their substance is arrested or impeded. It therefore plays a very important part in emphysema and in

pneumonia; in the latter disease, being often the real cause of death.

Bronchial hæmorrhage is divided into that totally unconnected with consumption; that which is coincident with the beginning of consumption; that which, by inducing chronic inflammation, leads to consumption; and that which occurs during the course of the disease.

In addition to the forms of pneumonia mentioned above, is described interstitial pneumonia, the real chronic pneumonia which results in pulmonary induration and bronchiectasis.

In the article on croupous (common) pneumonia, the points of chief interest are, the results of the treatment by cold, of which the author has been one of the most prominent advocates; the indications for blood-letting, which will probably be welcome information in this country, where venesection has become a lost art; and the causation of consumption by the caseous degeneration of the fibrinous deposits of pneumonia.

The author's opinions on pulmonary phthisis are already too generally known to require mention. (Readers of the *JOURNAL* will recollect a very complete notice in the number for December, 1867.)

A notice of a work of this kind can hardly give any true idea of its value, and the points of which special mention has been made were chosen for no particular cause, save that they, as well as any others, would show the general tendencies of the book.

Before closing, one point demands mention, viz., the constant and discriminating use made of mineral waters in the treatment of all chronic diseases. The value of these means can hardly be overestimated, and we cannot but regret that, in this country, hydrology is almost an unknown science. The translators would confer yet another favor upon the profession by giving us, in their next edition, an appendix, showing what analogies exist between particular springs in Europe and this country. With such information, the direction of the physician, "Go to the springs," would be something more than a formality, and the choice of locality would depend more upon the patient's needs than the edict of fashion.

In leaving the book, we can heartily say it is one which

becomes more valued upon acquaintance, and would urge every medical man to add it to his library.

ART. II.—*Treatise on the Diseases of the Ear, including the Anatomy of the Organ.* By ANTON VON TRÖLTSCHE, M. D., Professor in the University of Würzburg. Translated and edited by D. B. ST. J. ROOSA, M. D., etc. Second American from the fourth German edition. New York: William Wood & Co. 1869. 8vo., pp. 565.

SOME time since we noticed the first edition of this translation, and we shall now merely mention some of the additions that have been made in the present one.

The first American edition contained twenty-five chapters; the present one has thirty-one. This increase is partly from entirely new material, partly from amplification of subjects treated of in the former edition. Among the new chapters are four on the anatomy of the ear, which are very interesting, and probably give the best description of the auditory apparatus that can be found in the English language.

The fourth German edition contains 458 pages, while the translation comprises 565; as the pages in the two works contain nearly equal amounts, we see that the work of editor has not been merely nominal. The additions consist of a large number of illustrative cases, and of notes concerning different modes of treatment recommended by English and American surgeons.

Of the illustrative cases some have already been published in the American journals and copied into German ones; others appear in print for the first time. We might especially call attention to the cases of exostoses of the external meatus, and of employment of the artificial ear-drum.

The number of woodcuts in the translation is nearly double that in the original. Among the additional illustrations is one of Bishop's apparatus for throwing spray into the Eustachian tube and middle ear. We agree with the translator in not considering this a perfectly practicable mode of treatment. It seems to us very improbable that nebulized fluid should pass, in the form of spray, through a tube whose walls are not usually widely separated.

When speaking of the treatment of chronic purulent catarrh of the middle ear, attention is particularly called to the influence it has of inducing abscess and inflammation of the brain. Among the methods of treatment given for this chronic purulent inflammation, we may mention as new that by the insufflation of powdered alum and the application of strong solution of nitrate of silver; in case of making the latter application we must be careful to speedily neutralize the excess of caustic, by injecting warm salt water. From personal observation, we can recommend both of these plans.

Among the new things in this edition we may mention Wréden's conclusions on the subject of aural inflammation in the newly-born; and the chronic inflammation of the external auditory meatus, induced by the vegetable parasite called *aspergillus glaucus*.

In conclusion, we congratulate the translator on the completeness of his present edition, which we regard as the best work on ear-diseases now in the hands of the profession.

ART. III.—*A Practical Treatise on the Diseases of Children.*

By ALFRED VOGEL, M. D., Professor of Clinical Medicine in the University of Dorpat, Russia. Translated and edited by H. RAPHAEL, M. D. From the fourth German edition. Illustrated. New York: D. Appleton & Co. 1869. 8vo, pp. 593.

THE special favor with which Prof. Vogel's treatise was received in Europe has induced the publishers to place the work before the profession in this country, notwithstanding the fact that several books on diseases of children have recently appeared, and one or two others are announced as in press. A very cursory examination of the work now before us is sufficient to show that in so doing the publishers and translators have not acted upon any erroneous estimate of the worth of the treatise. Rapidly passing to a fourth edition in Germany, and translated into three other languages, America now has the credit of presenting the first English version of a book which must take a prominent if not the leading position among works devoted to this class of diseases.

The book is divided into two parts, the first being "Intro-

ductory," and devoted to "Anatomico-pathological Remarks upon the Infantile Organism," and discusses successively the subjects of Respiration and Circulation, the Secretions and Growth, with chapters on the general rules for the examination and the nursing and care of children. No words are wasted, but, in the very first sentence, the author at once plunges into his subject with the sharp and indisputable assertion that the first act of the new-born is to inspire; and the style of the whole work is equally terse and effective. The chapters on the examination of children, and on the nursing and care of children, although comprised within thirty pages, are the best with which we are familiar, and accord with our own convictions of the proper management of infants. The vexed question of nourishment is curtly solved by insisting, in all cases where it may be practicable, upon nursing from the breast, and, if this be impossible, cow's milk is recommended as the best substitute for the mother's milk. Dr. V. advises that it should never be diluted with more than one-third its quantity of water. The practice of diluting cow's milk with three or four times its own quantity of water, which is so largely indulged in in this country, we are satisfied, from our own experience, is unwise. Dr. V. adds always a moderate amount of carbonate of soda to the mixture of milk-and-water. In practice, our own opinion is that this should not be insisted on as a rule, though frequently, and in cases where there is a special tendency to the rejection of the milk, the practice is attended with much benefit. No farinaceous aliment is recommended during the first three months of life. The countless thousands of infants murdered by arrow-root, and such-like starchy compounds, would doubtless be saved to the world if the public, as well as the profession, could be made to understand the full force of this advice. Liebig's soup is spoken of very highly for many cases that are badly nourished by the ordinary methods of feeding. On two points only we should be inclined to take exception to the author's recommendation. The first relates to keeping a new-born child in a darkened room, gradually increasing the light until, at the end of fourteen days, it may be exposed to the full light of day. Our own belief is that God Almighty made sunlight for babies as

well as for adults, and, in a considerable experience, we cannot recall an instance where any injury has resulted from exposure of a new-born infant to the full light of day. The influence of light in producing ophthalmia is, we believe, absolutely *nil*. The other point is with reference to sending an infant, who may be born in the winter season, out of doors. The author advises that eight or ten weeks should elapse before the child is sent out on its daily airings. In this latitude, with any thing like decent weather and proper clothing, we think it safe at a much earlier period than this.

Part second of the book then takes up the special diseases of infancy, and, devoting a chapter first to those which result directly from the delivery, an anatomical classification is followed. Space will not allow us to take up this portion of the work in detail. We can only say, therefore, that the descriptions of the diseases are admirable, and special pains are taken to make clear the distinctions between those diseases which are similar to each other. In pathology the book will be found fully up to the latest advances in this department of medicine. The author's therapeutics are uncommonly simple, perhaps, in the estimation of many, too much so to square with the popular impressions of the necessity of medication in infancy. There is, we believe, a growing impression among the profession that the diseases of infancy do not demand those fierce approaches with medicaments which only a few years since were so familiar; and in estimating the real value of treatment by—medication we mean—Dr. Vogel's book must prove of service. We may return, at a later day, to an examination of the author's views in some special diseases, but at present must content ourselves with a general commendation of the work, and an expression of our satisfaction at seeing so good a book issued in so handsome a style.

CELIBACY.—Dr. Starke, Registrar-General of Scotland, says: "Bachelorship is more destructive to life than the most unwholesome of trades, or than residence in an unwholesome house or district, where there has never been the most distant attempt at sanitary improvement of any kind."

Bibliographical and Literary Notes.

The Physicians of the Time of Molière ; their Manners, Institutions, Doctrines, etc. By T. EDWARDS CLARK, M. D.
[Continued from page 155, vol. x., No. 2.]

AT court there were other exigencies to meet, for, besides the difficulty of pleasing such and such a one, there was also that of not displeasing twenty others ; excellent exercise for making the character pliable, but certainly not for rendering it stronger. Consequently most stood this test badly. Nevertheless, judging them according to the evidence of their contemporaries, we must remember one consideration which has its importance. The princes, and the king especially, had the right to take their physicians from whatever place they chose ; this title overrode all others, and gave to him who bore it the right to practise his art on an equality with the doctors of Paris. Now, it often happened that the princes made their choice not from among the adepts of the *rue de la Bûcherie*, but took, for example, a doctor of Montpellier, who consequently found himself invested with all sorts of privileges, and could make a redoubtable opposition to the doctors of the faculty, among the richest clients of Paris. It was natural that they should be not well disposed toward these new-comers.

From their position the strangers sometimes became involved in politics. Under Richelieu, Vautier, a man able and active, found himself transformed, in a manner, into chief of a party. The memoirs of the times speak of the *Vautier party*. Having received his degree at Montpellier, he came to Paris to seek his fortune, and succeeded so well as to secure the appointment of first physician to Queen Marie de Medicis, mother of Louis XIII., whom he appears to have ruled completely. It is well known that the Vautier party seemed for a time to triumph, and was near to obtaining, from the weakness of the king, a dismissal of the cardinal. But this success did not last long. Richelieu increased in power with the king, and overthrew all the projects of his enemies. This was the *journée des dupes*. Vautier was even more duped than all the others : he was put in the Bastille, where he could

meditate on the inconveniences to which he had exposed himself in taking advantage of his profession to mingle with politics. The severity of his treatment shows the importance of the rôle which he had undertaken to play. The queen-mother, having retired to Belgium, often asked for him, but in vain. She was taken sick, and wrote that there was absolute necessity for his advice. The king sent her two of the most distinguished physicians of the faculty, Piétre and Riolan. But Vautier was always strictly watched. The queen was, however, allowed to write to him; but the prisoner replied that he could not give advice without seeing the patient. It was then decided that the queen must do without him; and Vautier did not leave the Bastille till after two years of confinement—till after the death of Richelieu. He returned to court with *éclat*, completely cured of his ideas of opposition, obtained great favors, became physician to Mazarin, later physician to King Louis XIV., and died in 1652, possessor of an immense fortune.

He was not the only one of his profession to whom Richelieu had given lessons of this kind. A certain Cérelle, physician to Louis XIII., was sent to the galleys, simply for having been found to be the bearer of a horoscope, relative to his royal client, which horoscope contradicted the views of the intractable minister.

It would be easy to mention other names more or less obscure, mixed up, generally with little honor, with these miserable intrigues, but they do not merit our attention. We hasten to speak of the four physicians of the court, who alone have retained, thanks to Molière, a sort of celebrity; and this will complete what we have to say of *l'Amour Médecin*. It appears very certain that, according to contemporary testimony, in this play, Molière dared to represent, under assumed names, and in the presence of the king, the four principal physicians of the court. It was, says one, Boileau who was charged to compose the great names destined to cover the transparent allusions. According to Cizeron-Rival, *Desfonandrès* (otherwise called *slayer of men*) was none other than Des Fougerais, first physician to Madame. *Bahis* (yelping, barking) designated Esprit, first physician to the queen-mother, who, in fact, stammered in

speaking. *Macroton* was the pseudonym of Guénant, first physician to the queen, who, on the contrary, spoke with extreme deliberation. Finally, *Tomès* (blood-letter) represented Daquin.

In respect to the last there is every reason to believe that Cizeron-Rival, who wrote several years later, was mistaken, and possibly this is not his only error. In 1665 Daquin was not yet one of the principal physicians of the court, but simply doctor in camp. Moreover, he was a great giver of anti-mony, and consequently a great enemy of blood-letting, and bore wrongly the name of *Tomès*. It is more probable that this name referred to Valot, then first physician to the king, and who bled freely, not sparing his master. Whichever of these two interpretations may be correct, it is curious to note that neither Valot nor Daquin was a doctor of the faculty of Paris; which fact hardly squares with the austerity belonging to *Tomès*.

It will perhaps be of literary interest to know some of the peculiarities which belong to these persons, otherwise they have no place in the history of science. It is remarkable, as an exact measure of their standing, that no one of them was ever dean. It is probable that, if Molière dared to put them in his play, it was because the court was in the habit of amusing itself at their expense, and had often been present at altercations analogous to those of the comedy. Observe what took place at the time of the last sickness of Cardinal Mazarin: ¹ "Yesterday, at two o'clock, in the wards of Vincennes, four of his physicians, namely, Guénant, Valot, Brayer, and Bédard des Fougerais, disputed among themselves, and could not agree as to the nature of the disease of which the patient died. Brayer said that the spleen was damaged, Guénant said that it was the liver, Valot said it was the lungs, and that there was water on the chest, Des Fougerais said that it was an abscess of the mesentery. . . . What able men! These are the ordinary impositions of empirics and of court doctors—made use of to make up for ignorance. Nevertheless, most of the princes have stooped so low as to employ them." Is not this the reality of the comedy?

¹ Letters of Guy Patin.

Des Fougerais must have been about seventy years old, for he received his degree in 1621. His true name, which is found on the register of the faculty, was Elie Béda. He added, on his own authority, the name (Des Fougerais) of an estate which belonged to him, and was for a long time called Béda des Fougerais, then briefly Des Fougerais. This convenient process of making a nobleman, which is still in use, was much more so at that time. But Des Fougerais had his riches for his excuse, and his clients were the most eminent of the aristocracy and the high magistracy—men of the world, men of good fortune; he strove to redeem, by his grand manners, a natural infirmity: he was lame in both legs, and the spectators at the Palais Royal could easily recognize him if, as is probable, the rôle of *Desfonandrès* was played by the lame Béjart.

He was born a Protestant, but was converted in 1648 with a certain *éclat*, which leads one to doubt his sincerity. "I think," says Guy Patin, "that if this man believed there was in the world a greater charlatan than himself he would seek to poison him. He had in his pocket white powder, red and yellow. He cured all sorts of diseases, and intruded himself everywhere. . . . He promised to cure every one. He was for his part very eager to promise, and knew much more than every one else; such and such a one only knows how to bleed and pruge, but he possesses all the great secrets. . . . Venerable and detestable charlatan, if there ever was one; but he was a man of good luck, and never changed his religion but to make his fortune and the better to advance his children."

This portrait is not flattering, and we recognize in it the hand of an enemy. Nevertheless, it is not necessary to change it much. M. Taschereau goes further, and accuses Des Fougerais, on an *on dit* of Russy Rabutin, of practising abortion. He should have given the proofs with such an accusation. That which is certain is, that his charlatanism once attracted a severe reprimand, which was inflicted on him by a decree of the faculty. It is good to know it, in order that these traits attributed to him may not stain the country which repudiates him as unworthy.

Esprit is the one of the four of whom we possess the least

information. We are acquainted with him also by a pseudonym. His family name was André. Esprit was the Christian name of his father, physician of Béziers. We know only that, after having been one of the physicians of Richelieu, he became Mazarin's and his family's, and after the severe sickness of the king, in 1658, he was attached to the person of the Duke d'Anjou. It was he who advised giving the emetic to the king. Raynaud is of the opinion that, in the play, *Bahis* does not designate Esprit, but Brayer. The name of the latter suits this hypothesis. Brayer or *Brailler* is the same as *Bahis*, which means brawler. This Brayer stood high at court. His large fortune gave him of itself position. He contended strongly with Valot for the place of chief physician to the king, and came near securing it. Guy Patin speaks of him as a very honest man, but thinks that he did wrong in yielding to Guénant on the question in regard to antimony. One can easily understand the motive of the condescension.

Guénant was assuredly the most celebrated and the best known of the physicians of the epoch. Receiving the degree of doctor in 1612, he found himself, after the death of Morand, the oldest of the school, for which, differing in this respect from his colleagues of the Louvre, he never ceased to show the greatest attachment. The court and city swore by him. Having been successively chief physician to Prince de Condé, then to the queen, he had often, in his long practice, been called to give advice either to the king or to all the royal princes. A gentleman of quality could not be even tolerably sick without having sent at least once for him. Antimony made at least three-fourths of his fortune; he and it were one, and, as his fortune increased, so much the more he valued his time. All the contemporaries who have said much about him agree that he was a man greedy of gain. The solemn slowness of his utterance, the *recherche* of his dress, his high influence, constituted him a sort of grand seigneur; and it is certain that, of all the physicians of the court, he had the most courage to make a direct attack.

The place of chief physician to the king was no mediocre position. He ranked at court among the grand officers of the royal house; obeyed no one but the king himself; had a right

to the same honors and privileges as the grand-chamberlain. His dignity conferred on him the title of count, which he could transmit to his children, with all the prerogatives of nobility. He had a crown in his coat-of-arms. He received, besides, a commission as counsellor of state, took this title, made the appointments of the position, and wore its costume in the ceremonies. When he visited the faculty, he was received at the door by the dean, the bachelors, and the beadles—even when he himself had not received his degree in Paris.

But the most important of his privileges was a real and very influential jurisdiction over the practice of medicine and of pharmacy in the whole kingdom. This jurisdiction extended especially to matters relating to legal medicine. He nominated in each city the surgeons as experts to make reports in courts of justice; and, as these positions were much sought after, we can easily understand how much influence one would have who had the absolute disposal of them, and we may add what a source of profit they might become to a royal physician not over-scrupulous. This sale of positions was so much practised that physicians holding secondary rank at court were openly venal. Fontenelle relates with admiration that Louis XIV., in establishing the house of the Duke de Berry, gave to Fagon the charge of first physician to the prince, to sell it to whomsoever he pleased; and that Fagon refused the offer. This disinterestedness is, without doubt, very honorable, but it is strange that he felt himself in duty bound to refuse such a proposition. Séguin bought his place as physician in *ordinaire* for fifty thousand livres of Guillemeau, and sold it for twenty-two thousand crowns to Cureau. Valot himself, who succeeded Vautier in 1652 in the position of chief physician to the king, paid, it is said, Cardinal Mazarin thirty thousand crowns for his place.

Louis XIV., who loved order and regularity in all things, made him keep a daily record of the state of his health, and this journal was continued by his successors, Daquin and Fagon, till 1711, four years before his death, when it suddenly stops.

Valot commences his journal by an account of the king's attack of small-pox, in 1647. As, at this time, he was not yet

chief physician, he speaks of himself in the third person ; but one may presume that he says nothing unfavorable of himself. He modestly relates that, on this important occasion, M. Vautier called M. Valot *a very famous and very busy* physician in consultation. M. Guénant and several others were present. They had a very stormy time. The advice to bleed by M. Valot gave rise to severe recrimination, which, however, did not prevent the chief physician from immediately putting it in practice, although those who were not of this opinion retired from the chamber of the king, and protested before the queen that this method of treatment was dangerous, and contrary to the rules of medicine.¹ The king got well, nevertheless, and Valot adds, courtier-like, "The king has shown, in this severe and dangerous sickness, that one ought to have great hopes of the grandeur of his courage, since, from the age of eight years, he has exhibited patience and firmness in the great sufferings and accidents which have often happened to him. . . . One can hardly express the entire confidence which the queen shows and had in the ability of M. Vautier, chief physician of the king, who has conducted himself with great prudence in this sickness, having called in *M. Guénant and M. Valot*, who have given, on this important occasion, proofs of their ability, and have shown all France that there was need of their light in a condition so deplorable and so desperate."

It appears, in fact, that France had need of his offices, since he succeeded Vautier, but we know at what price. Being able, henceforth, to speak in his own name, he begins by addressing to the king a memoir on his temperament, which he inserts in his journal. He easily shows to his majesty that he was born with a temperament which belongs to heroes ; and gives to him, besides, excellent advice ; among other things, "to make use of his virtue to resist the excesses of his youth." Unfortunately, the king did not always make use of it, and one cannot help laughing when Valot speaks to him of his *chastity without example*. He pretends even to have preserved him,

¹ *Tomès*. If you do not have your daughter bled immediately, she is a dead person.

Desfonandrès. If you let her be bled, she will not be living in a quarter of an hour. (*L'Amour Médecin*, act ii., sc. vi.)

by his care, from the danger of having no posterity. All is in this style. Valot wrote out, with complaisance and for the instruction of posterity, the formulæ which he by Heaven was inspired to write for the benefit of this precious saint: "*Potion for the king; plaster for the king; injection for the king*"—all written out in large characters.

He prided himself on his powers of prognostication. The king was again taken sick in 1656, and recovered. Valot writes: "So I have not been in any respect deceived in this sickness, having predicted it to all the court, and to M. le Cardinal Mazarin by a letter, as I have said above, who has often told the king and all the court that he admires in me that power of predicting with so much exactness the march of disease, and that I was not deceived in this case nor in several others." This *naïve* expression of the admiration which he inspires, and of the wonderful light which God has granted to him, is very often repeated in his journal. But he goes still further: he predicts, at the commencement of each year, the sicknesses which shall occur. Thus, in 1657, he announces that there will be inflammation of the lungs, measles, dysenteries, "*but the king will be free from these.*" It must be confessed this power of precision in prophecy has been lost, but he was aided by his knowledge of the computations and the changes of the winds. It appears, however, that there were those who disputed the gift of prophecy which he claimed. Hence, in 1669, he writes: "I am resolved not to inscribe in this work any thing more of the kind, for envious persons suppose that I make my predictions after the fact."

With all his defects, Valot had the glory of dying in harness, though for a long time he was not able to be of much service. When the war of the Low Country broke out, he followed the king into Flanders, but died on the road, not being able to support the fatigue.

Daquin, his successor and nephew by marriage, took his degree at Montpellier. He was a converted Jew; a man of wit rather than of science, and endowed in the highest degree with the qualities of a courtier. He reached this position at a trying time. To take care of a prince afflicted with the gout, and suffering from vertigo and attacks of melancholy, and

wishing to take the lead in pleasures and business of state, is certainly enough to test the power of a chief physician. And Daquin, notwithstanding all his tact, finally ended by succumbing to these trials. Besides these difficulties, he had to assist at several severe accidents ; a perforation of the palate, a fall from a horse, a dislocation of the elbow, and especially the celebrated fistula of 1686. Daquin had the reputation at court of asking favors secretly. One morning it was told the king that an old officer whom he loved died during the night. Louis XIV. replied that he was sorry, he was an old domestic who had served him well, and who had a quality very rare in a courtier, namely, that he never asked for any thing. On saying this, he fixed his eyes on Daquin, who understood the king's reproach, but, without being disconcerted, said to his majesty : "Dare one ask of your majesty what you ever gave him?" The king had nothing to say, for he had never given any thing to this discreet courtier.

Nevertheless, he ended very sorrowfully. He was summarily dismissed in 1693, and exiled to Moulins, where he died not long afterward. "He had asked the archbishopric of Tours for his son. If to ask more than he ought was a crime, then he had been a criminal for a long time." It is more probable that, having owed his elevation to Madame de Montespan, he had great difficulty in sustaining himself after the marriage of the king, and, sooner or later, he must have shared the disgrace of the favorite.

That which confirms this suspicion is, that his successor was his rival, Fagon, the *protégé*, or rather the friend of Madame de Maintenon. He became acquainted with her during a trip which he made to the springs of the Pyrenees, when she accompanied one of the natural sons of the king. "The greatest pleasure which she had in these different travels, so a witness well informed tells us, was to be no more at court. She found still another in the conversation of M. Fagon, then physician to M. le duc du Maine. It was then that was formed between them that esteem and friendship which was never lessened. The more M. Fagon became acquainted with Madame de Maintenon, the more he admired her virtue and her mind. I cite him as a good judge of true merit." Introduced

by her into the familiarity of the king, he rapidly made himself acceptable by his prepossessing manners, and, we must add, by his rare talents. He had occasion to show himself at the time of the "*grande opération*." He, with Louvois, Daquin, and the surgeons Félix and Bessière, assisted during the operation; and from that time his reputation continued to increase.

The king once, at Marly, had a severe attack of fever. The doctors, about midnight, seeing that the fever diminished, allowed him to eat some broth. Daquin remarked: "See one who is on the decline! I am going to bed." Fagon pretended to follow, but stopped in the anteroom, saying, between his teeth: "When, then, will we watch? We have a good master, and one who pays us well." He threw himself into an arm-chair, and was as well off as he would have been in his room, for he never undressed, and was obliged to sit up on account of his asthma. One hour after, the king called the first valet de chambre, and complained that his fever was on the increase. He replied that M. Daquin had retired, but M. Fagon was there, and asked if he should call him. "What will he say to me?" said the king. "He will say something to you, perhaps, that will console you," replied the chief valet de chambre. Fagon entered, felt his pulse, gave him some drink, turned him over on his side, and finally found himself alone with the king for the first time in his life. Daquin had his discharge three months afterward.

Fagon was a nephew of the celebrated Guy de la Brosse, founder of the Royal Garden. Hardly had he received his degree from the Faculty of Paris, in 1664, when he was appointed professor of botany in that institution by Valot, who, as chief physician to the king, had the supervision of it. There, surrounded by plants, he acquired that fondness for botany which never forsook him. He spent the first years, after graduating, in travelling to collect plants and to enrich the museum. Later, when having become himself chief physician, he had the entire control of the garden, and we may consider him as the second founder of it, for he made it the first scientific establishment of the kind in the world. His information was extensive, and enhanced by the charms of a fascinating delivery. Having reached in his profession the summit of honors, he made

himself esteemed by all for his rare qualities. His disinterestedness equalled his modesty. He never received money from the rich. He abolished the tax which was attached to the chairs of the professors in medicine in the different universities. He used all his influence to procure the royal favors for the faculty, whose homage he constantly refused ; and it was with difficulty that he was persuaded to enter the Academy of Sciences. This is enough in regard to one who, by the brilliant period of his life, belonged to an epoch later than that which now concerns us, but who, by his conspicuousness, excepting rank and the immense confidence which he enjoyed in the second half of the reign, would merit well a place in that gallery of physicians of the great epoch.

Some commentators have thought that they saw his portrait in the *Purgon* of Molière. This conjecture, founded on the consonance of the two names, appears to be without foundation. At the period of the representation of the *Malade imaginaire*, Fagon was only thirty-five years old, and his position was not then sufficiently brilliant to attract the attention of Molière. Moreover, he was the friend of Mauvillain, who had worked with him at the Royal Garden, and who would not have been willing, one would think, to furnish personal peculiarities directed against his friend. Besides, there is nothing in the character of the burlesque person which nearly or remotely resembles Fagon's.

With these reservations made in his favor, we can most heartily assent to the satires of Molière directed against the physicians of the court, whose ambition, intrigues, and mean and noisy rivalries, have enough in them to arouse the hatred of an honest man. We have seen that they received the condemnation of the faculty itself, and we have really no reason to be more indulgent.

As far as we have studied the medical world of the seventeenth century, it would appear to be destined to a modest existence, happy and peaceable, all things considered. But such is not the case. We have yet to speak of obstinate wrappings, violent debates, sometimes veritable battles—*bella, horrida bella!* Under these grave figures, under these venerable

robes, profound passions and fiery rage conceal themselves. One feels that *la Renaissance* has passed that way. A magic word, which hereafter shall have the power of making all the hearts of the modern world vibrate, has not yet been spoken, but soon will be : Progress ! No one speaks of it, but all the world dreams of it. It is a desire, an instinct, a confused aspiration, before being a conceived and premeditated plan. One begins to comprehend that that which has been so far, is not all that which can be ; that antiquity has not perhaps removed from every thing the ideal of the beautiful and the true ; that after Aristotle there is yet something to do.

In medicine, as in all affairs, progress is not the work of a day nor of one man. The whole world concurs in it more or less ; even those who disown it ; and its apostles are not always its best instruments. Innovations succeed one another, bringing with them necessary reactions. The innovation is sometimes absurd ; the reaction is often blind and iniquitous. These two phases of the human mind have their representatives in all epochs ; but at last the distance between these two extremes becomes so great, that the world perceives that a step has been taken in advance. Let us not laugh too much at these passions happily at present extinct, for it is to these we owe that which we are. Passion is trouble, without doubt, but it is also life, and an epoch is very unfortunate which has not had its part in the great contentions of science.

In all times, to excite the mind, there has been need of at least a word to serve at the same time as a symbol and a standard of rallying. In the seventeenth century there were two : the circulation of the blood, and antimony.

The doctrine of circulation was born in England. After the discovery of Harvey was known in France, the first feeling that it excited was that of surprise. One was so habituated to the old theories of Galen, and the liver had occupied so long the first rank as the origin of the vessels and organs of blood-making ; in fact, all agreed so well in appearance in the doctrine of the school, that there was, on the receipt of this news, at first, a general movement of curiosity, then of incredulity, excited.

However, the new system presented itself with a strange

grandeur: "The same," said Harvey, "as the planets circulate in space, describing always the same orbit, which has neither beginning nor end—the water circulating between the earth and the heavens, when, after it has fallen in the form of rain or of dew to moisten and fertilize the soil, it evaporates under the influence of the rays of the sun, and forms vapor destined soon to condense and descend again—it is thus that, in describing an analogous circle, the blood, nourisher of the organism, runs out from the heart into all parts of the body, carrying warmth and life; then cooled and vitiated by its contact with the parts, it returns again to the organ whence it came."

Some minds were immediately seduced by the sublimity of this conception, and, we may add also, by the variety and plausibility of the proofs with which Harvey had encircled his discovery. It is true that he had had some predecessors; the truths which he announced had been already partially seen; Michael Servetus had exactly described the course of the blood from the right to the left cavities of the heart, through the lungs; Cesalpinus had remarked that the veins swelled when one applied a ligature, and that this enlargement was always below the point of compression; Charles Estienne Fabricius had studied and described the valves of the veins; but no one had had that entire and perfect idea of the phenomena which alone constitute a discovery, and, moreover, no one had tested these views by a series of well-conducted arguments and experiments.

Perhaps if this discovery had been less resisted, another of great importance would not have been made about that time, which came to complete it, and to aid it in the destruction of the old theory of the preëminence of the liver. In 1662, a happy accident led Gaspard Aselli, an Italian anatomist, to discover the existence of the lacteal veins, as he called them, which run out from the intestine, charged with the product of digestion. But, imbued with the ideas of Galen, and deceived by appearances, he supposed that these chyliiferous vessels terminated in the liver. His opinions were opposed, because he attributed to his lacteal veins the office which had been before believed to belong to the portal vein. It was not worth while, said some, to change the received opinion.

Harvey himself was among the chief who opposed Aselli. "It is evident," he said, "that the chyle, which is destined to nourish the entire organization, is carried from the intestines by the mesenteric veins, and it is not necessary that we should seek a new way by the lacteal veins."

But, in 1649, a Frenchman, Pecquet, showed that the termination of the chyloferous vessels was not in the liver, as was then taught, but in a reservoir to which he gave his name. Consequently the chyle is poured directly into the blood, without passing through the liver. It was decidedly the entire edifice of medicine that the innovators were assailing, and nothing was sacred in their eyes. The liver, and Galen, were attacked on all sides at once. On the one hand, it was contended that the veins did not have their origin in the liver, since the circulation was complete, having neither beginning nor end. On the other, it was asserted that the chyle did not go to the liver, as in the past. Every thing is now changed. Henceforth we must burn all that we have adored!

It is related that when Pecquet demonstrated his discovery to the faculty of Montpellier, the professors of that celebrated school listened attentively, and were obliged to yield assent to the evidence brought under their eyes; but one of them, overcome by so unexpected a discovery, cried out, in great grief, "What, now, will become of medicine?" This was, in fact, the question. The embarrassment was to know what to do with the liver. Some intrepid reformers declared that its reign had come to an end—that it was dead, and nothing now remained but to bury it.

The one who, of all others, seemed most fully to comprehend the blow made by the new discoveries against the ruling doctrines was J. Riolan. That the practical consequences were great could not escape his sagacity. He was far from being an ordinary man. No one guarded more constantly than he the sacred fire of science. Possessed by a passionate love of truth, he sought to satisfy it less with books than with an attentive and constant study of Nature. He was a profound anatomist, much above the prejudices of the times which interdicted to *savants* the use of the scalpel and the manipulations of the laboratory; and he did not cease, by ex-

ample, to lead the young to this serious and practical method of observing facts. Having a true fondness for anatomy, he enriched it with several important discoveries. It is, therefore, strange that Riolan, who was thus, on the score of his tastes and talents, a *parvenu*, should be found among the assailants of the new doctrines. But it is complimentary to him that he was the only adversary that Harvey, who was little inclined to controversy, deigned to answer.

Such is the force of education : nourished on the doctrines of the Faculty of Paris, he was, as it were, identified with Galen ; and though he admitted willingly that we may add something to them, it appeared to him madness to attempt to contradict them on the essential points. His mode of argument was sometimes thus : " If Picquet is right—if the chyle does not go to the liver—then is this latter no longer the seat of the natural faculties ; no more charged with the office of blood-making. It is then reduced to laziness, or that which is worse, to the lowest service. Hippocrates and Aristotle, who believed in its importance, were far out of the right path. Moreover, the chyle, coming directly from the intestine, goes, impure, undigested, and not elaborated, into the subclavian veins, and thence into the heart. The heart—the noble seat of vital warmth—is now nothing more than an ignoble cook. How shall it get rid of the chyle ? Shall it conduct it through the right ventricle to the lungs ? It will then infect the organs of respiration ! Shall it throw it forth into the aorta by the left ventricle ? That will be worse still ! Briefly, life itself is in danger by this new system. Therefore the chyle ought to go to the liver, as in times past."

But the thoracic duct exists : Riolan has seen it, for Pecquet has shown it to him. Then he loses himself in hypotheses : perhaps this canal is destined to furnish the fibrous portion of the blood ; perhaps it produces an acid ferment and warmth for the vivification of the arterial blood ; perhaps it serves for the nutrition of the glands of the neck, and then this will be a proof conclusive of the opinion of the ancients, who said that *scrofula* comes from the mesentery !

Such are the expedients to which a man of mind may be led when he is determined to fight against evidence. Though

Riolan represented the greater part of the faculty, it must be acknowledged that Harvey found in it, from the first, some decided partisans of his doctrine, which, though discarded, was never absolutely condemned.

As to Guy Patin, he was a man who hardly liked to embark in these questions of pure science, and it is doubtful if he ever fully understood the one under discussion. The adherents of Harvey were called the *circulators*. Now, *circulator*, in Latin, means charlatan. This was enough for Guy Patin: to be a circulator was to be a charlatan. He did not associate with such. During his deanship a certain Bertrand, surgeon (*barbier*), submitted to the faculty a work against circulation, and asked an opinion of its merits; but, as the faculty wished to avoid this, at the instigation of the dean, the book was returned to its author, under the pretext that it did not belong to a surgeon to treat of so difficult a subject.

Riolan died in 1657, the same year of Harvey's death, and the combat may be said also then to have ended; and the opposition came out strongly in favor of circulation, its adversaries becoming fewer and fewer.

Descartes, who had the glory of adopting among the first in France the doctrine of Harvey, and who praised him for having broken the ice in this direction, had the misfortune, at the same time, to pervert his idea, in refusing to the heart the faculty of active contraction, and in considering the alternate movements due to oppression and dilatation under the influence of warmth and cold. Mattot, in 1665, combated these views, and cited, among others, the famous experiment which consists in taking out the heart of a living animal and observing it beating on the table for a long time.

But circulation had gained its cause, and all the leading minds had adopted it. In 1673, Louis XIV. consecrated this victory in instituting, in the Jardin des Plantes, a special chair of anatomy for the propagation of these new ideas. This was given to Dionis. It was in this year of the official recognition of the doctrine of the circulation of the blood, that Molière subjected to ridicule the last champions of this superannuated cause, in putting this phrase into the mouth of Diafoirus, delivering a eulogy on his son: "That which especially pleases

me in him, and in which he has followed my example, is, that he is blindly attached to the opinions of our ancients, and that he has never wished to comprehend nor hear the reasons and experiments of the pretended discoveries of our age touching the circulation of the blood, and other opinions of the same nature.”

THIS is a brief *resumé* of what is at present known on the subject of glaucoma.¹ In it the attention of the general practitioner is called to the chief objective symptoms of the disease, such as hardness of the eyeball, etc., and he is warned that the only remedy on which he can rely is iridectomy. No new ideas are advanced, but the subject is presented to us in a very attractive and readable form.

THIS paper² presents Prof. Arlt's opinion of, and success with, Bowman's method of treating obstructions of the lachrymal passages, by dividing the canaliculi and dilating the passages by graduated silver probes. The only part of this paper that may be called original is the plates, showing different sections of the lachrymal apparatus. These plates were made from specimens that had been frozen hard before the sections were made, so that we see the parts in their normal relations.

The translation is not particularly creditable to the translator.

MESSRS. LINDSAY & BLAKISTON, with their usual promptitude, have issued the Physician's Visiting List for 1870. The simplest of all the Visiting Lists now published, it must continue to hold what it now has with very many of the profession, the preference over all other forms of this indispensable companion for the physician.

THE first newspaper published in France, *Gazette de France*, which is continued to-day under its original title, owes its existence, according to the *Pall Mall Gazette*, to a physician,

¹ "Glaucoma," by Henry D. Noyes, M. D. Reprint from the Transactions of the New York State Medical Society.

² "Treatment of Lachrymal Affections," by Prof. Arlt, of Vienna translated by John F. Weightman, M. D.

Dr. Renaudot. The circumstances which led the doctor to the establishment of the paper are thus stated :

He spent a good deal of his time in hospitals, and devoted most of his money to the relief of the sick. One day it struck him that the long hours of convalescence must weigh very heavily on patients who had nothing whatever to amuse them as they lay in bed ; and, as he happened to have a very chatty and humorous correspondent called D'Hozier, who sent him long letters from Orleans two or three times a month, he made it a practice to read these letters aloud to his patients, to try and cheer them a little. The plan succeeded wonderfully, so much so, indeed, that Renaudot thought it might be no bad speculation to have the letters printed and sold. He applied to Richelieu for a privilege, which was granted without difficulty, and it is thus that the *Gazette de France* started into life as a weekly paper, published on Wednesdays, at the price of six sous—that is, about 10*d.* modern money.

GRAY'S "Anatomy" has passed to a fifth edition in England. It has now an Introduction on General Anatomy and Development, by Mr. T. Holmes, the well-known author and editor.

DR. BENCE JONES, Secretary of the Royal Institution of Great Britain, is engaged on a biography of Faraday, the chemist.

ANNOUNCEMENTS.—*J. B. Lippincott & Co.*: Percussion and Auscultation. From the German. By Prof. S. C. Lane, M. D.—Hypodermic Medication. By Prof. Roberts Bartholow, M. D.

Longmans & Co., London: Pulmonary Consumption, its Nature, Treatment, and Duration, exemplified by an Analysis of One Thousand Cases, selected from upward of Twenty Thousand Cases. By C. J. B. Williams, M. D., and C. T. Williams, M.D.—On the Use and Preservation of the Eyesight. By Robert B. Carter, F. R. C. S. (Exam.).—Clinical Notes on Diseases of the Larynx, investigated and treated with the Assistance of the Laryngoscope. By William Marcet, M. D.

Lindsay & Blakiston: A History and Present State of the Cell Doctrine for the use of Students in Medicine. By James Tyson, M. D.—Practical Anatomy for the use of Students. By C. Nealt, F. R. C. S., second edition, illustrated.

—Protoplasm, or Life Force and Matter. By Lionel S. Beale, M. D. Bell's Manual of the Operations of Surgery, second edition.

Hurd & Houghton : Contributions Relating to the Surgery of the War. Edited by Frank H. Hamilton, M. D. This is the third of the Sanitary Commission Series of publications relating to the late war. The first volume, edited by Dr. Austin Flint, Sr., and devoted entirely to medical subjects, met with a very flattering reception, and has been largely quoted both at home and abroad.

Among the French publications we observe the following, which is spoken very highly of in some of the foreign journals : *Traité de l'Alimentation dans ses Rapports avec la Physiologie, la Pathologie et la Therapeutique*. Par le Dr. Jules Cyr.

In "*Steiger's Literarischer Monatsbericht*" we find notices of the following new medical publications in the German language : *J. N. Czermak*, Popular Lectures on Physiology. Vienna.—*L. Fleckles*, Contributions to the Pathogeny of Chronic Diseases of Women, and their Treatment by Baths. Leipzig.—*H. Goullon*, Diseases of Infancy, and their Homœopathic Treatment. Leipzig.—*H. W. Günther*, Human Eye and Vision. Delitzsch.—*J. E. Güntz*, The Mercury Question and the Consideration of a New Treatment for Syphilis. Leipzig.—*B. Hagen*, Practical Contributions to Otology. Leipzig.—*M. Heider & C. Weal*, Atlas of Pathology of the Teeth. Leipzig.—*C. M. Hoefft*, First Principles of Surgery. Hamburg.—*J. Jacobson*, Reformation of the Course of Instruction in Ophthalmology at the Universities. Erlangen.—*J. Jeanne*, Prostitution in Large Cities, etc., translated into German by F. W. Müller. Erlangen.—*J. Kühn*, Gonorrhœa in the Male and Female. Leipzig.—*F. Müller*, Compendium of the History, Pathology, and Treatment of Venereal Diseases. *Schiess-Gemuseus*, Myopia, its Causes and Results. Basel.—*Virchow*, Certain Injurious Influences in Schools. Berlin.—*G. R. Wagener*, Development of Muscular Fibres. Marburg.—*H. Brehmer*, Chronic Consumption and Tuberculosis of the Lungs, their Causes and Treatment. Berlin.—*H. Helmholtz*, Mechanism of the Ossicula of the Ear and of the Membrana Tympani. Bonn.—*S. Herzfeld*, Diseases of Infancy. Vienna.

—*H. Klencke*, Animal or Vegetable Diet. Leipzig.—*C. Lender*, Valleix's Points Dououreux and their Causes. Leipzig.—*C. J. Le Viseur*, Arsenite of Antimony in Pulmonary Emphysema. Leipzig.—*A. Mayer*, Hallucinations and Illusions. Vienna. *E. Richter*, Ruptures. Leipzig.—*M. J. Rossbach*, Physiology and Pathology of the Human Voice. Würzburg.—*E. Siegle*, Treatment of Throat and Lung Diseases by Inhalations. Stuttgart.

Syphilis, its Nature and Diffusion popularly considered. By James G. Beaney. With fifteen Plates printed in chromolithography. Melbourne, Australia.

BOOKS AND PAMPHLETS RECEIVED.—Instruction et Considérations synthétiques sur la Nature, la Constitution et la Forme des Nuages. Par M. André Poëy. Pamphlet, pp. 30. (From the Author.)

Travaux sur la Météorologie, la Physique du Globe en général et sur la Climatologie, de l'Isle de Cuba et des Antilles. Publiés par M. André Poëy. Pamphlet, pp. 24. (From the Author.)

Vichy, its Mineral Waters, Salts, and Lozenges. New York. Bouché, Son & Co. Pamphlet, pp. 103.

Thirty-third Annual Announcement and Catalogue of the University of Louisville, Ky. Session 1869-'70.

The Orleans Infirmary and the Medical Association of New Orleans. Pamphlet, pp. 24.

This little pamphlet is peculiarly interesting. It is an outcropping of that spirit of insubordination so characteristic of Americans who will not submit to restrictions or impositions, no matter from how respectable a source. The gist of the matter is this: Drs. Choppin, Beard, Brickell, and Bruns, of New Orleans, all of them men eminent in the profession, established an infirmary for the treatment of special diseases. This infirmary they advertise by circular letter, and for this terrible transgression they are taken to task by Dr. Crawcour, and charges are preferred against them before the Medical Association of New Orleans. The accused in their defence disclaim all intention of violating the code of ethics, and show by the examples of many eminent teachers and practitioners that advertising is a constant practice, although they do not claim this as an excuse for their own course; they rest their defence on the broad merits of the case, and claim that their conduct was honorable and judicious. The result was that the accused were suspended from the Medical Association until such time as they should signify to the president thereof their willingness to conform their action to the existing rules and regulations of the society as interpreted by the council. To this the accused reply that their whole conduct in this matter was deliberate, and that to yield on

this point would be to make a disgraceful and dangerous concession, and thereupon they tender their resignation, which the society quietly disposes of by laying it on the table.

We care not to commit ourselves to a judgment of the merits of this individual case, but we think it requires no prophetic vision to see that the time is coming when more liberalism will be allowed in such matters than is now accorded; yet, as we are a law-abiding people and profession, we must stand by our written bulwarks, for there is no safety in allowing departure from established rules to depend on individual judgment. The progressive spirit of the age will ultimately right things for all.

Nocturnal Enuresis and Incontinence of Urine. By Frederick G. Snelling, M. D. Pamphlet reprint from *Medical Gazette*, pp. 18. (From the Author.)

In this little paper, the author attempts to classify the various causes of this distressing malady, and to lay down for it a rational and systematic treatment instead of the hap-hazard and irrational plans too frequently followed. The reception of the paper, which has been quite largely quoted in the medical journals of the country, is a good indication of the author's success in accomplishing his object.

Reports on the Progress of Medicine.

SURGERY.

- 1.—*Dislocation of the Elbow: A New Method of Reduction*, By THOMAS WATERMAN, M. D. [Boston Medical and Surgical Journal, October 14, 1869.]

Finding no record in the surgical text-books, of the method described below, I have thought the following case and comments worthy of publication.

On the 9th of May last, I was called to visit Mrs. L., aged 30. She stated that, when near the bottom of a flight of stairs, she had tripped and fallen down the last three steps, striking with the whole weight of the body on her extended hand. As the accident had happened but half an hour previously, there was no swelling to mask the lesion. The left elbow was flexed at a right angle, and all motions were attended with great pain. After etherization, the ulna was found to be dislocated directly backward at the elbow, as shown by the unusual prominence of the olecranon, depressions on either side of the triceps tendon, and resistance to complete extension of the forearm, which was twisted and pronated. The head of the radius rotated in its normal position, and no other lesion—neither dislocation nor fracture—could be detected.

Assuming that the patient's statement was correct, it seems strange, in view of the intimate connection of the carpal bones with the lower extremity of the radius, that Colles's fracture of that bone did not occur; or, failing this, that the head of the radius was not forced out of place, either alone or in addition to the dislocation of the ulna.

Faithful trials of Sir Astley Cooper's method of bending the arm over

the knee, and Mr. Skey's method of extending the forearm directly downward in a line with the upper arm, failed to produce any effect.

I then succeeded in reducing the dislocation by bending the forearm backward beyond a straight line, when, without any extension downward, the ulna returned to its normal position with a slight shock. An internal angular splint was applied, and evaporating lotions recommended. In eight days the splint was removed, the patient allowed to carry the arm in a sling, and to execute slight motions in the joint daily.

The *modus operandi* of this method is as follows, viz.: When the ulna is dislocated backward at the elbow without fracture of the coronoid process, the latter occupies the olecranon depression of the lower end of the humerus, and often requires considerable force to remove it from its abnormal position. By the method above described, the forearm is used as a lever, with the power (hand of the surgeon) at one end, the fulcrum (olecranon) at the other end, and the weight to be moved (coronoid process) between. As the forearm is extended backward beyond a straight line, the olecranon impinges against the lower end of the humerus and becomes a fixed point or fulcrum; by continuing the forced extension, the coronoid process is lifted out of the olecranon depression of the humerus, and, when this is accomplished, the tonic contraction of the brachialis anticus muscle restores the ulna to its natural place.

It will be seen that this method of reduction is exactly the reverse of the process by which the bone becomes dislocated, although it returns by the same path by which it escaped; these two facts, it seems to me, should be borne in mind in the reduction of all dislocations, and additional proof of this statement may be derived from a study of Prof. H. J. Bigelow's system of reducing dislocations of the hip by manipulation, and Dr. Crosby's method of reducing dislocations of the thumb.

The method is capable of the most decisive demonstration with macerated specimens of the ulna and humerus, and might be employed in dislocations of both radius and ulna backward. It would be especially efficient in the reduction of old dislocations after the adhesions have been thoroughly broken up.

Since writing the above, I have noticed in a late number of this Journal the account of a case, copied from the *London Medical Times and Gazette* for July 17, 1869, p. 79, in which essentially the same method, i. e., excessive extension, was successfully applied to the reduction of a vertical dislocation of the patella.

2.—*Flexion in Popliteal Aneurism.* [Boston Medical and Surgical Journal, October 14, 1869.]

In a July number of the *Union Médicale* is a valuable analysis by M. Liégeois, relative to *The Treatment of Popliteal Aneurism by Flexion of the Leg on the Thigh*.—M. Liégeois claims that the French surgeon Lenoir first applied flexion in the treatment of popliteal aneurism. He employed semi-flexion only, and failed after a month's trial. Mannoïr, of Geneva, obtained the first success. In 1863, Hart, an English surgeon, reported a series of twelve successes. M. Liégeois's analysis is based upon a thesis of M. Stopin, containing forty-nine cases, all borrowed from English surgery except eight.

These forty-nine cases are divided into two principal categories—the successful ones and the unsuccessful. The first series—the successful—are subdivided into three secondary categories: First, *Cases in which flexion alone was employed*. There were seven of these, in which the age of the subjects ranged from thirty to forty years, with the exception of one of sixty years. The size of the tumor was inconsiderable—generally from

that of a walnut to that of an orange—though one was as large as the fist. In all but two, pulsation ceased during flexion; and in these two it was very feeble. All these seven got well without relapse, after flexion lasting from three to eighteen days.

The second subdivision comprises *cases in which flexion was resorted to after the failure of certain other methods of treatment*. In these recoveries, four in number, the aneurisms varied in volume from that of an orange to that of a hen's egg.

Thirdly, we have *cases in which flexion was employed in concurrence with other measures*. In these, we are told, it is difficult to assign the share the flexion had in the successful results. In one, the aneurism was of the size of the fist; in the others it was as large as a turkey or goose egg.

We have thus twenty-six cures in forty-nine cases.

The *failures* were twenty-three in number. In three of them the flexion was borne, but was ineffectual. In the remainder pain interrupted the continuance of the flexion, which latter, however, was generally forced and not gradual or intermittent. By way of sequence, there was rupture of the sac seven times, and once inflammation of it. The most probable contraindications of this method are, according to M. Stopin, the author of the thesis analyzed, severe pain produced by the flexion; a large-sized aneurism; granulo-calcareous degeneration of the arterial system.

3.—*Spina Bifida in an Adult cured by Puncture*. [Lancet, October 9, 1869.]

Mr. Henry Smith has recently had under his notice, in the out-patient department of King's College Hospital, a man whose history, from a surgical point of view, is of great interest. The patient, who is thirty-two years of age, and the father of four children, had previously been affected with a large congenital swelling over the sacrum. The tumor was soft and fluctuating, extensively attached, and without any constricted base, and covered by thin and tense integument, which frequently became inflamed in consequence of pressure or of slight blows. The tumor, which was undoubtedly due to spina bifida, had been punctured on several occasions, but without any permanent results. Some months since, Mr. Smith again made a small puncture, and drew off 22 oz. of transparent serous fluid. This operation was followed by acute inflammation of the walls of the cyst, and severe general reaction, which placed the life of the patient in great danger. He made, however, a very good recovery, and now presents no trace of his former lesion, with the exception of a slight fullness of the integument and a distinct depression in the centre of the sacrum.

4.—*On a New Method of using Needles in the Operation for Harelip*. By LAWSON TAIT. [Lancet, September 25, 1869.]

I venture to bring before the notice of practical surgeons an improvement in this operation, which I believe to be one of importance. It is an operation which is performed principally for æsthetic reasons, and it is frequently marred in this respect by the ungainly scars which are left by the needles when used in the ordinary way; in fact, I have not yet seen a case in which this defect has not been marked. What I propose is, that, instead of two or more needles being introduced transversely through the flaps, they should be used in this manner: Having made what incisions he deems requisite for the operation (and I may here say that I have abandoned all the fancy manipulations for the old-fashioned straight incisions, removing

plenty of tissue), the surgeon is to introduce two ordinary seamstress's needles, armed with a few inches of silver wire doubled, through the flaps, in the form of a St. Andrew's cross; the point of each needle is to be introduced through the mucous membrane of the lip, about half an inch from the edge of the flap, and brought out at the middle of the incision, then introduced into the other flap at the point opposite, and brought out at the root of the ala of the nose. The needles cross in the middle of the wound. The flaps are to be carefully adjusted, then the heads of the needles to be pushed fairly into the lip, and pulled together by twisting the wires; the points of the needles are then to be cut off close to the skin, and the stumps retracted into the flaps. In this way nothing is left to "catch," and, when the needles are removed, by untwisting the wires and pulling by them, there are no scars left.

In the last case in which I used this method, the parents of the child, aged seven years, say that it is scarcely possible for a stranger to tell that the child had been operated upon, and in this case there was a complete and very wide intermaxillary cleft, which I had previously closed.

DISEASES OF CHILDREN.

1.—*Complete Absence of Anus, with Rectum opening into the Vagina.* By Dr. GARLAND. [Medical Press and Circular, September 1, 1869.]

On July 27, 1869, Mrs. — brought for my advice a female child, aged three months, suffering from imperforate anus. On examination, I found that the obstruction was not of the membranous form, but that the rectum for a considerable distance was blocked up with a dense mass of fibro-cellular structure, and communicated with the vagina, through which the contents of the bowel escaped. I advised an operation as the only alternative for a speedily fatal issue, or at best a brief but miserable existence. The mother consented, and I had the satisfaction of assisting Dr. Morrison, of this town, who, by cutting down on the point of a bent probe, introduced into the *cul-de-sac* of the rectum through the vagina, opened the gut at the depth of about two inches from the surface: thus making an artificial anus with a moderate amount of hæmorrhage. I need scarcely say that the operation was performed with that skill and dexterity which Dr. Morrison is well known to possess.

Finally, a conical plug was inserted in the rectum, and the mother instructed as regards its manipulation. The case has gone on most satisfactorily from the beginning up to a recent date. The feces are passing through the natural channel, while the abnormal opening in the vagina seems to be rapidly closing.

Mr. Erichsen takes a gloomy view of these cases of *complete absence of anus*, and says, "It commonly happens that death results in a few days, from irritation occasioned by the absorption of the excreted fluids."

I think this case is worthy of record, and should encourage others to operate, as the *dernier ressort* under similar circumstances.

2.—*On Sleeplessness in Infants.* By EUSTACE SMITH, M. D. [British Medical Journal, August 28, 1869.]

By far the most common cause of restlessness at night is *injudicious feeding*, the child being stuffed with food, which, although not necessa-

rily in itself injurious, is yet ill-adapted to the nourishment of the particular infant to whom it is given. It is a common practice among mothers—especially those of the poorer classes—to make up for any deficiency in the amount of breast-milk by farinaceous food, long before the digestive power of the child is suited to such a diet. The stomach of an infant of about two months old is thus often filled with a mass of starchy matters, which the absence of saliva will not permit him to digest. This mass, fermenting in his bowels, is a source of continual discomfort until it is evacuated. Even when cow's milk is used as an addition to breast-milk, it is very frequently ill-digested, although diluted with water. The clot formed by the coagulation of cow's milk is particularly firm and solid, and differs very much in that respect from the clot of human milk, which is exceedingly light and flocculent. In very young infants, therefore, and in older infants of delicate stomachs, the digestive juices can make little impression upon the mass of curd. Feeding so conducted cannot be continued for long together, without producing very evident signs that the nutrition of the body is no longer efficiently maintained. The child, deriving very little nourishment from the food, which, however, he eagerly swallows, will soon begin to waste, in spite of his voracity. But, before nutrition has become impaired so decidedly as to produce emaciation, certain symptoms are noticed showing the uneasiness of the digestive organs; and one of the earliest of these signs is restlessness at night. The child starts out of his sleep, crying violently. His skin is hot, his belly tense, his upper lip livid and drawn up at the corners; and the griping pains from which he is suffering are shown by the violent contortions of his body, and the uneasy, jerking movements of the limbs. Even when taken up into the arms of his mother he is not pacified, but breaks out into piercing cries, which nothing is able to quiet until he becomes exhausted. Other signs of his unsuitable food consist in frequent hicough, flatulence, sour eructations, and constipation. The sluggishness of the bowels is due to excessive secretion of mucus in the alimentary canal, excited by constantly renewed irritation of its lining membrane. The mucus being coagulated by the acid, resulting from the decomposition of starchy matters, covers the masses of food, and lines the inner surface of the bowel, so that the slippery surfaces glide over one another, and the contents and the intestine are not properly forced along. These stools themselves consist of little round masses, remarkably firm, and of a yellowish color, exhibiting, when crushed, a cheesy appearance. They are evidently composed of curds and undigested farinaceous matter. The smell is often offensively sour, and they are accompanied by a considerable quantity of tough mucus, either covering the little lumps, or appearing in the form of strings, which have been mistaken for portions of parasitic worms.

This cause of wakefulness at night is so excessively common, that in every case where this distressing symptom is complained of, inquiry should at once be made into the diet of the infant, so that, by a proper adjustment of the quality and quantity of his food to his powers of digestion, the child may be supplied with a diet which he is able completely to assimilate. When this has been done, and the bowels have been assisted by a gentle laxative to expel their undigested contents, the improvement is immediate; the child sleeps soundly, and his irritability ceases at once.

It must be remembered that plumpness in an infant is no proof that his feeding is judiciously conducted. Badly-fed children may be exceedingly fat, as we sometimes see in cases of commencing rickets, where the adipose tissue is in great excess, although the general nutrition of the body is by no means satisfactory; and, in commencing rickets partly from this cause, but partly, no doubt, from another cause which will be afterward referred to, sleeplessness and irritability at night are exceedingly common symptoms.

OBSTETRICS AND DISEASES OF WOMEN.

1.—*Successful Cæsarean Section—Mother and Child both saved.* By J. S. GAUNT. [British Medical Journal, August 28, 1869.]

On the morning of July 29th I received a note from Mr. Parsons, of Tanworth, requesting me to meet him and Mr. Kimbell, of Tanworth, at a case of difficult labor at Asbury Heath. We met at 9 o'clock, when I found that Mrs. B., aged thirty-eight, a blacksmith's wife, had been in labor since the 27th. She thought the membranes ruptured on that day, with the first pains; but only a small quantity of fluid escaped. This was her fourth pregnancy. In her first labor, in 1857, she was attended by Mr. Kimbell, and more than a week passed before the child was born; it was still-born. In her second confinement, in 1860, she was attended by the late Mr. Duce, of Wednesbury. She was in labor twelve hours, when a very small living child was born, which survived its birth but a few weeks. After this confinement, she suffered from pain and weakness in her back and hips. She was in the General Hospital at Birmingham for ten weeks, under the care of Dr. Russell. In 1865, she was in labor for four days, being this time again attended by Mr. Kimbell. Craniotomy was performed by this gentleman, after consultation with Mr. Smith, of Redditch.

On vaginal examination, I was unable to reach the presenting part. The transverse diameter was only one inch, the antero-posterior an inch and a quarter, barely admitting my first three fingers, closed together, up to the first joint. I urged my colleagues not to delay, but to proceed at once to the performance of the Cæsarean section, as being the only hope of saving the mother's life, as well as that of the child. This was consented to. I advised forty minims of Battley's solution of opium to be administered, and we arranged to meet at three o'clock. The bowels had acted in the course of the morning; and water was passed at 2 p. m., so that it was thought unnecessary to introduce the catheter. She was placed on a bed, with her legs drawn over the bottom, the feet resting on pillows. Mr. Kimbell administered chloroform; and, when she was fully under its influence, Mr. Parsons made an incision about four inches in length in the course of the linea alba, dividing the peritonæum on a director. An incision was then made into the upper part of the uterus, wounding at the same time the placenta, from which issued a slight gush of blood. He then introduced his finger, and upon it divided the uterine wall. I now tore through the membranes, seized the breech, and extracted a well-developed living child, which began to cry lustily. After cutting through the funis, I separated the placenta, which was attached to the anterior and superior part of the uterus. I now introduced my hand into the uterus, passing my forefinger through the os into the vagina, from which there was a slight discharge of blood, continuing to this date. I then placed the fingers of my right hand on each side of the incision, and brought the edges into apposition. With my left hand I grasped the fundus, which contracted very fairly. The wound was closed by means of hare-lip pins passed through the abdominal walls, embracing the peritonæum with intermediate silk sutures. A pledget of lint, secured by adhesive strapping, was then applied, and a bandage carefully adjusted. We agreed to give one drachm of laudanum, to be followed by a quarter of a grain of opium every four hours; the diet to consist of beef-tea and milk.

On the 30th, there was some distention of the abdomen, and an enema was given. The following day, the bowels were relaxed, and they have

subsequently acted on alternate days. The catheter was introduced, but was not afterward required. The opium was inadvertently omitted on August 1st; great depression followed, and the pulse became extremely frequent.

The sutures were removed on August 9th, when firm union was observed to have taken place. Scarcely three ounces of blood were lost at the operation. It should be noted, that a higher temperature was maintained in the chamber, and that the vagina was syringed daily with a weak solution of carbolic acid.

Her father suffered from syphilis, and died from phthisis. Her mother became an inmate of an asylum. She told us that she had been becoming shorter in stature for some time past. I have only to add, that both mother and child are quite well.

2.—*Ovariectomy twice performed upon the same Patient.* [Lancet, October 9, 1869.]

M. Boinet has had the good fortune of twice [performing ovariectomy upon the same patient, with the very best results. The patient was exhibited on Tuesday last to the Paris Academy of Medicine, and seemed in good condition. She is a woman of forty-eight. The two operations had been performed within the space of ten years. The left ovary, which was first removed, weighed about eighteen kilogrammes (36 lbs.), the right one 18 lbs. The patient was then in a most unfavorable condition of health. The second time she was operated upon, she was almost carried off by a bad attack of diphtheria; the false membranes were limited to the air-passages, and did not cover the wound.

M. Boinet availed himself of the second operation to examine with care the mode of reunion of the peritonæum. He could detect no trace of the first operation on the abdominal serous membrane; union had been perfect. M. Boinet had included, as he always does, the peritoneal edges in the suture of the lips of the wound, and he infers, from the observation of his patient, that this method is the best. He contends that, when sutures are made in front of the peritonæum, they favor the production of adhesions which may at a subsequent period bring on intestinal strangulation.

3.—*Spina Bifida successfully treated by Ligature.* By EDWARD SIDEBOTTOM, M. D. [Lancet, September 25, 1869.]

I was summoned on the 8th of September, 1866, to attend Mrs. D—, of Hollingworth, in her third confinement, who, after a long and tedious labor, was delivered of a fine, full-grown, male child, about the usual size and weight, apparently healthy and strong. I soon discovered that the infant was suffering from bifid spine in the lumbar region, the tumor being about the size of an orange, tense, fluctuating, and of a pale-purple color.

I made known to the parents the danger attending such cases, and suggested that I might have to resort to some operation for the removal of the tumor, or try ligature. I came to the conclusion to adopt the latter course; and, in two days after its birth, I placed a ligature of silk thread round the neck of the tumor, tightening the ligature only slightly. The following day I passed another (also of silk thread), without removing the first. This appeared to produce a good deal of irritation, causing several clonic convulsive attacks for several hours during the day, but which passed off in the evening. The next day I passed a third ligature (silk thread), not disturbing the two former ones, and using more constriction—still without causing more convulsions, but leaving the child fretful. The three ligatures were all kept on until the tumor sloughed off, which did not happen for three

weeks, leaving only a very small wound, over which I applied a piece of dry lint, using gentle pressure. In three days the wound had perfectly healed, leaving the child's lower extremities partially paralyzed. After a few days cold water was applied by means of a sponge along the whole course of the spine, daily, with marked benefit, the paralysis disappearing by the end of three months.

The reason I have not reported this case sooner is, simply that I might watch my little patient for some time to see if any new symptoms would develop themselves; but now that three years have elapsed I consider him out of danger. The little fellow is strong and healthy, and can run about as well as any boy of his age. In the course of my obstetric practice, I have had many cases of spina bifida, in some of which I have used the remedies generally recommended, such as support by trusses and bandages, and puncturing the tumor. Others I have left to Nature, some of which lived a few months, and one five years. But I must confess that for many years I have had the idea that ligaturing the tumor in certain cases might be of service. I have often mentioned it to many of my medical friends, from whom, however, I have met with but poor encouragement. But the nearly always unfavorable result of repeated puncturing, pressure, etc., and in this case the child being well nourished and strong, led me to adopt this plan of treatment, which, I am happy to say, has proved a perfect success. Foresters in the first instance, and Benjamin Bell more recently, advised the application of ligatures round the base of the sac, provided the disease be local, and a mere distention by fluid in consequence of the imperforation of the bones, and not a disease of the spinal marrow or membranes, and it be not complicated. It does not appear that either of them tried it. Erichsen (vol. ii., p. 215) says he has "never known any but a fatal result follow the removal of these tumors by ligature, scissors, or knife." Gross (vol. ii., p. 188) speaks equally discouragingly of the results, and I cannot find a case on record which has been treated successfully by this method. Dr. Nevins mentioned, at the Liverpool Pathological Society, in 1850, three cases in which puncture had been tried. One case was cured, the gentleman being then forty years of age; the second died; and the third was quite well at the end of three or four months, with the sac contracted. Dr. Hana has related a case in which spontaneous rupture of the sac took place after measles, and the child recovered. Cases have been cured by puncture followed by injection of iodine, as proposed by Dr. Brainerd. The present case was doubtless one in which the spinal cord had no, or only slight, connection with the sac. Ollivier states that, when the disease is not complicated with hydrocephalus, he has generally found the spinal marrow traversing the sac unaltered; but if coexistent with hydrocephalus, or if the canal of the spinal marrow be distended with fluid, the cord may be flattened out, as it were, so as to apparently line the sac. The gradual compression by the tightening of the ligatures may have contributed a little to the favorable result in this case, and should another opportunity present itself to me I shall not hesitate to adopt the same course.

THEORY AND PRACTICE.

- 1.—*Tobacco Amaurosis ending in Complete Blindness.* Reported by Mr. HUTCHINSON. [Medical Times and Gazette, September 4, 1869.]

W. B., aged fifty, was a railway clerk, and enjoyed good sight until January, 1867. He then had a severe cold, which lasted some months,

after which his sight gradually failed. In May, it had become so bad that he could scarcely read. In the beginning of September he consulted Dr. Hughlings-Jackson, who (as he states), after a very careful examination, told him that he had no other disease than atrophy of the optic nerves, and advised him not to smoke. Up to this time he had been smoking freely (two to two and a half ounces a week), and had never thought that it disagreed in any way. On Dr. Jackson's recommendation he left it off at once and entirely. During the next year he did not smoke in the least. He obtained, however, no apparent benefit from his self-denial. The amaurosis steadily advanced, and at the end of twelve months he was quite blind. No other cerebral symptoms were noticed at any time. He had previously enjoyed excellent health, with the exception of a single attack of gout, and for twenty years had never been under medical care.

W. B. came to me in February, 1869, two years after the commencement of his amaurosis. He was now so nearly blind that he could not count gaslights, although he could just distinguish a window. He was cheerful, and in good health. His pupils were very small, and quite motionless. After use of atropine, the pupils dilated moderately. I found the disks of a yellow-gray tint, and presenting shelving cups. The central vessels were of normal size, and the minute capillaries were not so entirely absent as is usual. There were no other diseased conditions. His smell, hearing, taste, etc., were almost perfect. He had during the last few months, thinking his case hopeless, resumed his habit of smoking.

Some further points are of interest in this case. For ten years before his failure of sight, W. B. had been a pledged teetotaller. He had never at any time been intemperate. He continued his abstinent habits during the whole period of treatment. After he had been some time under Dr. Jackson's treatment, he passed to that of an ophthalmic surgeon, who tried the opiate treatment for three months. He speaks very strongly as to the misery which this plan caused him. During the three months he scarcely slept at all; visions and subjective phenomena were constantly before him, and at length, in fear that his reason would fail, he insisted on leaving it off. He considers that his nervous system has never since recovered its tone.

W. B. is a remarkably intelligent man; was in former life a great reader. He tells me that since his affliction he has been made acquainted with the particulars of many similar cases. "I have been astonished," he says, "to find that it is not the fast-livers that it takes. It is usually the hard-workers and abstemious." He is strongly impressed with the belief that, both in his own case and in that of most others he has seen, smoking was the real cause. I wish to ask especial attention to the fact that the man was smoking heavily while taking no kind of alcoholic stimulant. I have met with several cases in which this history was given, and am decidedly of opinion that the injurious influence of tobacco is to some extent counteracted by alcohol.

2.—*Dysenteric Arthritis.* [Western Journal of Medicine, September, 1869.]

The *Archives Générales*, of August, contains an article with this title, by Dr. Huette. More than a century ago this form of disease was recognized by Zimmerman and others. Most of these observers, however, explained it as occurring from metastasis.

Dr. Huette terminates his elaborate paper with the following conclusions:

"1. There is a variety of arthritis having its sole and necessary cause

in an epidemic phlegmasia of the mucous membranes of the rectum and of the colon.

"2. This rheumatismal manifestation does not occur in every epidemic of dysentery; it is subordinate to the influences of a peculiar medical constitution: individual diathesis may favor its development.

"3. Dysenteric arthritis, essentially apyretic, differs in its causes, in its progress, its general aspects, and its consequences, from simple articular rheumatism. It presents a great analogy with blenorragic rheumatism.

"4. Dysenteric arthritis, almost always poly-articular, has a duration of several weeks or several months. It generally terminates by resolution—rarely by suppuration and ankylosis.

"5. Metastasis does not explain the appearance of this arthritis, as was formerly thought; it is more rational to attribute it to a morbid affinity, which, the mucous membranes being diseased, determines reflex pathological effects upon other tissues of the economy."

3.—*Intermittent Fever successfully treated with Iodide of Potassium after Quinine had failed.* By S. L. ABBOT, M. D.
[Boston Medical and Surgical Journal, October 7, 1869.]

May 13, 1869.—E. S. D., law-student, aged twenty-six. Applied for treatment for intermittent fever, from which he had been suffering since the first week in April. The patient was a native of Ohio, and had had several previous attacks. On one occasion he had been treated successfully, by an eminent practitioner of this city, with sulphate of quinine. At that time, he had taken the drug ineffectually for some time, in considerable quantities, not understanding the proper method of employing it. He was speedily relieved by large doses taken with the proper interval of time before the period of access, under his physician's directions.

During the present sickness, the chills had recurred daily, and the patient had suffered much from almost constant, deep-seated pains of a rheumatic character, mostly in the chest and arms, which were most severe in the latter part of the day and at night, sometimes seriously disturbing sleep. There was some tenderness on pressure over the spleen, but no enlargement of that organ could be felt. Appetite much impaired.

R. Potass. iodid., gr. v.

Fl. ext. quassia, f 3 ss.

before each meal.

18th.—Patient reported that he commenced the use of the medicine on the 14th. On the evening of that day he had a severe chill, which lasted two hours, and was followed by fever and profuse sweating, as usual. On the 15th he had another attack, but much less severe. There had been no recurrence since. The appetite was improving; the bowels were regular, and the patient felt much better generally. Directed to continue the use of the medicine until the 21st, when the evening dose was to be omitted.

June 3d.—No chill since last report. Appetite said to be "enormous," "better than for three years." Patient says, "The medicine killed the ague in just two days." The pain in the bones ceased after the third day. It is worthy of remark that, during the present attack, before applying for medical advice, the patient had taken quinine in large quantities, sometimes taking as much as twenty-four grains in a day, and in accordance with the directions previously received from the physician who formerly attended him, but without the least benefit.

I was led to prescribe iodide of potassa in this case, from having employed it successfully several years since in a similar case, which had not yielded to sulphate of quinine, in which instance I was induced to employ

it on account of the well-known powerful influence which it exerts over the nervous system. In the number of the *Archives Générales de Médecine* for August of the present year, is a valuable paper on the use of iodine combined with iodide of potassa in intermittent fever, in which a number of cases of its successful employment are given.

Miscellaneous and Scientific Notes.

PROFESSOR S. T. DANA, M. D., of Portland, Maine, has resigned the chair of Theory and Practice in the Medical School of Maine, and is succeeded by Prof. A. B. Palmer, of Michigan. Prof. W. W. Greene, also of Portland, has dissolved his connection with the University of Michigan, on account of ill-health. He is succeeded by Prof. A. B. Crosby, M. D., who already holds the chairs of Surgery in Dartmouth College, and in the Medical Department of the University of Vermont. Prof. Greene, by reason of sickness, was unable to deliver his course at Brunswick (Medical School of Maine), and Prof. Crosby acted as his substitute.

PROFESSOR JAMES HADLEY, M. D., died October 18, 1869, at his residence in Buffalo, N. Y., at the ripe old age of eighty-four years. Dr. Hadley was for many years identified with medical teaching, having held professorships in several colleges, which, though now suspended, were in their day among the leading medical colleges of the country.

PROFESSOR WILLIAM A. HAMMOND, M. D., of Bellevue Hospital Medical College, has established a clinic for the treatment and illustration of the different forms of insanity. This is, we believe, the second instance in medical teaching, and the first in this country, where a clinic for this class of cases has been held. The other instance to which we refer was that of Griesinger, of Berlin, whose clinic acquired a wide celebrity. Dr. Hammond's clinic is held at the college on Saturdays, at 3½ P. M. The profession are invited to attend.

C. C. Cox, M. D., of Baltimore, Md., has been appointed Professor of Medical Jurisprudence in the medical department of Georgetown College, D. C. Dr. Cox has recently held for several years the appointment of Commissioner of Pensions.

DR. R. T. SHORT, of Edinburg, Mo., relates—*Medical Archives*, September, 1869—the case of a lad seventeen years of age, who recovered from the bite of a rattlesnake under the use of full doses of opium. The opium did not produce its usual soporific effects, but excited profuse perspiration.

PROF. E. R. PEASLEE, M. D., of this city, has recently been elected a corresponding member of the Obstetrical Society of Berlin, of which the distinguished Dr. Edward Martin is president.

WE observe in the *Missouri Democrat*, of August 11, 1869, an account of a case of poisoning of an infant from an overdose of morphine, administered by a homœopathic practitioner, Dr. J. A. Hensley. At the coroner's inquest the doctor admitted the giving of morphine to the child, but asserted he did not give enough to hurt it. The quantity of the alkaloid given was not stated, but three powders were prepared, the first of which was sufficient to end the case. Another St. Louis paper states the amount at one-tenth of a grain. This is hardly within homœopathic limits, we think.

Another case of a similar nature occurred in this city a short time since, in which the physician (Dr. Wm. Plumer) stated, on oath, at the coroner's investigation, that he was a homœopathic practitioner, and that he had administered to the infant a powder containing one-eighth of a grain of acetate of morphia.

PROF. THEOPHILUS PARVIN, M. D., has resigned the chair of Obstetrics and Diseases of Women in the Medical College of Ohio, to accept the professorship of Diseases of Women in the Louisville University. Dr. C. D. Palmer, of Cincinnati, who has been a lecturer in the summer sessions of the Miami College, is Dr. Parvin's successor.

DR. THEODORE R. VARICK, of Jersey City, has been appointed Surgeon-General of the State of New Jersey, with the rank of brigadier-general.

THE HEALTH OF THE EMPEROR NAPOLEON.—*L'Indépendance Belge*, for September 17, 1869, contains a lengthy and somewhat remarkable article on the disease of the chief of state,

from which we make the following abstract. The closing paragraphs are so thoroughly dramatic and Frenchy, that we give them in full :

The bodily sufferings of the emperor can be traced back to a remote period. We know positively that, previous to the *coup d'état*, these sufferings assumed the form of violent fits of hemicrania and neuralgia, especially of the sciatic nerve, the origin of which was referred to irritation of the spinal cord. Counter-irritation, which was at first beneficial, soon became unavailing. Achille Fould, whose wife had been cured by cold water, advised hydropathy, and, within three months of the employment of water-cure, under the direction of Dr. Fleury, the patient was free from his nervous ailments. His health continued good until 1861. At this time new symptoms, mainly referable to the genito-urinary organs, made their appearance; the Vichy waters were thought to be the remedy. While at that watering-place the emperor was seized with an obstinate dysuria; Rayer was summoned, and introduced a sound into the bladder of his illustrious client; a sharp pain and hæmaturia were the consequence of the experiment of Rayer, and from that time the emperor's health has never been in a complete state of integrity. The dysuria became distressing, and required frequent catheterization, which was done by Arnal and Nélaton, and which was followed several times by hæmaturia; pain now supervened in the hypogastric region, even in the recumbent position. The symptoms complained of at the present time have not materially differed from those to which he has been subject for the last eight years, except in their intensity and obstinacy. Lately, after the performance of catheterism by Nélaton, not only did hæmaturia occur, but another complication, urethral fever, supervened. Quinine was used, but without benefit. Then a consultation was held, at which Ricord was present; after this, arsenic was recommended; but the dysuria persists, and the general debility is marked; catheterization is often required; there are also an intractable insomnia and troublesome hiccough.

These phenomena suffice to solve two capital questions: 1. What is the disease from which the emperor suffers? 2. What is its probable termination? In the first place, it is evident that the seat of the disease is in the genito-urinary organs, and that the prominent symptom is a dysuria or retention of urine. Now, the lesions capable of causing retention are either paralysis of the bladder, or mechanical obstruction to the passage of urine. Paralysis of the bladder is never met alone, without previous paralysis of the lower extremities. The mechanical obstacles may be, a stone in the bladder, but it

would have been crushed or extracted before this time ; or a spasmodic contraction of the neck of the bladder ; but this would absolutely prevent the entrance of a catheter into the bladder, and would not give rise to hæmaturia ; strictures are curable as well as simple inflammation of the neck. Cancer is inadmissible, for in eight years it would have produced the characteristic cachexia. The prostate may be diseased, but this alone would be inadequate to account for all the symptoms. Nélaton has been heard to hint at vesical hæmorrhoids ; this consists in a varicose and fungoid state of the bladder ; this state is characterized at first by an unnatural development of those vessels which creep in or between the layers of the bladder ; then, by real intravesical tumors, due to the enlargement of the large blood-vessels, together with tumefaction, and, finally, softening of the mucous membrane. This fungoid or varicose tumefaction is, at times, rendered much worse by the action of divers influences, such as the exercise of the genito-urinary organs, painful moral impressions, and vicissitudes of the weather. During these paroxysms of tumefaction, it usually happens that the vesical orifice is obstructed, and then we have a complete physiological picture of the symptoms of this disorder, viz., hypogastric and perineal pains, difficult or impossible micturition, extreme sensitiveness of the genito-urinary tracts, hæmaturia from the slightest friction of the mucous membrane against a sound ; urine often turbid and even purulent. In this picture we recognize all the symptoms observed in the emperor ; every thing proves that he suffers from fungus of the bladder.

What are the consequences of this disease ?

The immediate effects of any chronic ailment of the genito-urinary organs tell profoundly upon the cerebral faculties ; the character becomes suspicious, surly, pusillanimous ; the will is weakened, and is governed by the most contrary influences. The *Times* said, a few days ago, that a sick statesman is a dead statesman ; but this is a blunder, for we know that epilepsy did not prevent Cæsar from conquering Gaul, nor did numerous infirmities prevent Pitt from becoming one of the greatest of England's statesmen. Many diseases leave to the mind all its lucidity, activity, and strength, but the genito-urinary diseases behave differently, and the *Times* would have been correct if it had said that any statesman affected with a genito-urinary complaint is a dead statesman, and it would have been yet nearer the truth had it said that any man, let him be a statesman, military man, or a mechanic, who is affected with fungus of the bladder, the course of which has not been checked in eight years, is a dead man.

When fungus of the bladder has reached that point when

frequent catheterization, followed by hæmaturia, is rendered necessary, skilful treatment may snatch a few more months of life from death, but such a disease, after eight years' duration, can be nothing but a series of relapses, and render convalescence more and more difficult.

The retention will recur more frequently; catheterization will become more painful; the hæmaturia more abundant and rebellious; the digestive functions will become gradually more impaired, and soon incapable of restoring strength, exhausted by suffering and losses of blood; and finally, within a month, within three months, within six months, at most, the lamp will die out for lack of oil, unless some unexpected accident, such as may always occur in the course of chronic diseases, should happen to extinguish it suddenly.

France, therefore, must resign herself to hear soon the chant of the *de profundis*, immediately followed by the *te Deum*, unless. . . .
DR. X.

A COMMENDABLE EXAMPLE.—Dr. James R. Nichols, editor of the *Boston Journal of Chemistry*—by-the-by, the most wide-awake journal of its class in the country—gave a handsome entertainment to the Essex North Medical Society, at its recent fall meeting. During their entire visit to the doctor's farm, "Lakeside," it is said that not a "case" was mentioned, nor were pills, boluses, or powders, even alluded to. The whole affair was devoted to recreation, and we are sure no class stand more in need of it than our own hard-worked profession.

DR. W. F. PECK, of Davenport, Iowa, reports (*Medical and Surgical Reporter*, Philadelphia) a case of extirpation of the uterus, which was accomplished after four hours of incessant labor, with the result of the death of the patient on the second day. The operation was undertaken for the removal of a supposed ovarian tumor.

SINGULAR CAUSE OF DEATH.—In the *California Medical Gazette* for October, Dr. W. Scott Thorne details a case of death from hæmorrhage from complete division of the external and internal jugular veins, and the superior and inferior thyroid and vertebral arteries. The left pleura was also opened, and the cavity was full of blood. The accident was caused by the bursting of a glass bottle while being filled with carbonic-acid water—the so-called soda-water of the shops. The

gas is injected under a pressure of one hundred and twenty-five pounds to the inch.

CONCERNING the transmissibility of tuberculosis, Dr. Dubuisson has lately read (*Gazette Médicale*) an exceedingly interesting note before the Academy of Medicine. This young physiologist, with the assistance of M. Villaux, has performed numerous experiments, the results of which completely disprove the doctrine of MM. Villemin and Chauneau. M. Villemin himself has, in several cases, indicated the proper manner of experimentation.

M. Dubuisson arrived at the following conclusions:

1. The inoculated materials are generally harmless, whatever may be the nature of the substances employed.

2. They occasionally produce rapidly fatal symptoms—death being apparently caused by a sort of poisoning.

3. In a few cases lobular pneumonia is observed, and should probably be regarded as the result of the inoculation; here the hepatized tissue might be mistaken for tubercles.

4. Tubercular tissue given as an aliment may occasion death, as would similar septic products.

5. Generally, however, the animals that eat of tuberculous lung experience some *malaise* from this improper alimentation, but do not become tuberculous.

These conclusions, confirmed by other observers, demonstrate that tuberculosis is neither virulent nor contagious for the animals experimented upon.

THE ALIMENTATION OF PATIENTS ON WHOM EXCISION OF BONE HAS BEEN PERFORMED.—M. André Sanson, in a paper read at the Academy of Medicine (*Gazette Médicale*, August 14, 1869), calls the attention of French surgeons to the fact, that, to promote osseous growth, the administration of phosphate of lime, either in the shape of hypophosphites or in that of powdered bone, is unavailing. Several attempts made with these substances have never been successful. It is because their form does not allow of their digestion and assimilation. On the contrary, earthy phosphates, such as are elaborated by vegetables, are real aliments, and their effects on animals fed with grains prove it sufficiently.

Now, wheaten flour contains but 0.40 per cent. of phosphoric acid and 0.02 of carbonate of lime ; in wheat-bran, on the other hand, we find 2.50 of phosphoric acid and 0.11 of carbonate of lime. Pure flour is, then, deprived of its phosphates to a great extent, and the bread made with it is not the proper aliment for patients referred to in this article. Their bread should contain most of the bran, or, still better, be made according to the process of M. Mége-Mouriés, in which the whiteness is preserved and all the nutritive elements are retained.

DR. G. D. BEEBE, of Chicago, reports in full, in the *United States Medical and Surgical Journal* (homœopathic), the case of removal of fifty-eight inches of intestine, to which we briefly alluded in the last number of the JOURNAL. The recovery was complete and rapid.

WE are gratified to learn of the handsome manner in which responses have been made to the proposal for establishing a library of the "American Medical Association," at Washington, D. C. Dr. Toner, writing to us under date of October 5, 1869, says that nearly all the medical journals of the country are now regularly received, and over four hundred books and pamphlets had at that time been donated to the library. We urge upon all medical authors the propriety of sending copies of their works to this truly national depository. Especially will it be advisable to place here copies of rare and valuable works, for the library building is fire-proof, and the donors will thus be assured of the security of their gifts.

THE CASE OF DR. PAUL SCHOEPPE.—The Medical Association of the District of Columbia have adopted resolutions requesting Governor Geary to suspend the execution of the sentence of Dr. Paul Schoeppe, convicted at Carlisle, Pennsylvania, of the murder of Miss Stinnecke, on the ground that the chemical evidence was insufficient, and failed to prove satisfactorily the presence of hydrocyanic acid, or any other poison, in the stomach of the deceased.—*Medical and Surgical Reporter*.

TYPHOID FEVER is prevailing throughout almost the whole of Europe, and in the larger cities of France it has assumed

an epidemic form. An epidemic of whooping-cough is also raging among the infant population of Paris. The small-pox, too, is cropping out quite formidably in London, and it is announced in the medical journals of that city that, since the recent crusade against vaccination by certain would-be reformers, the number of children brought in to the district vaccinators has very materially diminished.

HOIST WITH HIS OWN PETARD.—The medical officer of Pentonville Prison, in his report presented this year, mentions a remarkable case which occurred recently in that jail. Convict "5,211" was suddenly seized with vomiting of blood, and died of hæmorrhage in a few hours. The *post-mortem* examination showed a counterfeit half-crown lodged in a pouch in the gullet, which had caused ulceration and perforation of the aorta. The prisoner had been a "smasher," and in order to escape detection swallowed this coin ten or eleven months before his death. The absence of any difficulty in swallowing food or other symptom indicative of the presence of a foreign body in the gullet is remarkable; and the surgeon is not aware of any other case in which a smooth body, like a coin, has been found to ulcerate from the gullet directly into the aorta.—*The Times*.

NAVAL MEDICAL REFORM.—A committee of the Kings County Medical Society have issued an appeal to the profession—a copy of which we subjoin—in behalf of the surgical staff of the Navy. There is no question but that the status of the medical officers in our Navy is most unjust and humiliating; and it is to be hoped that the earnest efforts now making to remove their disabilities will prove successful. How young men can be induced to enter the surgical staff of the Navy with such prospects before them, is beyond our comprehension.

CIRCULAR.

To ———— *M. D.*, Pres't ———— *Co. Medical Society*:

SIR: The injustice of which the medical officers of the Navy have long complained, and the efforts made to secure to them the rank in the service to which, as members of the profession, they are entitled, have recently occupied a large share of public attention.

From the importance of Brooklyn as a naval station, and from intimate relations with naval officers, the members of the Kings County Medical Society have had the opportunity of thoroughly investigating and understanding the question at issue. They have, therefore, decided that it

is their duty to take the initiative in an effort to secure the name of every physician in the State, to a petition to Congress in behalf of our brethren in the Navy. Two copies of the petition are forwarded to you, with the request that you will, with the heartiness which their cause bespeaks, endeavor to secure the name of every member of your county society to both copies; one of them to be used by yourself or your friends, in bringing the matter to the attention of the members of Congress for your district, or residing in your vicinity; the duplicate to be forwarded to us, that we may have a record of the entire work accomplished, and that the voice of your county may be heard, together with that of every county in the State, at the approaching session of Congress.

Yours respectfully,

R. C. STILES, M. D., President.

H. J. CULLEN, M. D.,

J. C. HUTCHINSON, M. D.,

J. H. HOBART BURGE, M. D.,

CHAS. H. GIBERSON, M. D.,

Committee.

PETITION.

The undersigned, officers and members of the —— County Medical Society, do unite in a respectful, but urgent *Petition to the Honorable Senate and House of Representatives of the Congress of the United States*, that they would accord to the medical officers of our Navy such a degree of actual and substantial rank as properly belongs to them, as members of an honorable profession, and such as will serve the best interests of the Navy and the country, by offering attractions, in the former, to men of thorough culture and honorable ambition, and rewards to long and faithful services in behalf of the latter. We respectfully represent that it is impossible that the effective discipline of the service, or the existing relations of mutual courtesy between the line and staff should be thereby endangered, and that a source of contention would be thereby entirely removed, by giving to science and culture the rights which they cannot fail to claim, as long as they shall be found in the service; that the dignity and efficiency of a command are enhanced, when the character and position of its subordinate departments are exalted; and that no great power treats its medical service with as little consideration as is shown by our own country, in the humiliating position to which it exposes our medical brethren of the Navy. And we therefore earnestly pray that the past injustice may find a full reparation, and the present wrong an effective remedy, in the wisdom and bounty of your provision for all the rights and interests intrusted to your care.—*Medical Gazette*.

TREATMENT OF MALIGNANT PUSTULE.—Dr. Caspar, of Stassfurth, asserts, in the *Deutsche Klinik*, that he has treated several hundred cases of malignant pustule successfully by strong solution of ammonia; and that all the patients recovered except one—a pregnant woman, whose stomach rejected every thing. The dose for children was one, two, or three drops; and for adults four drops, given every hour, day and night, in sweetened barley-water. The treatment, he says, must be continued until the inflammation ceases to spread round the pustule. The local application of solution of chlorine is of little or no value.

Fig 1.

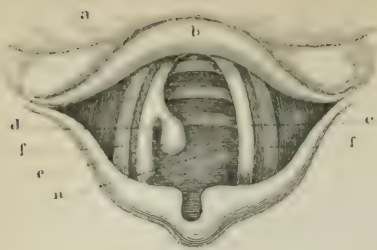


Fig 6.

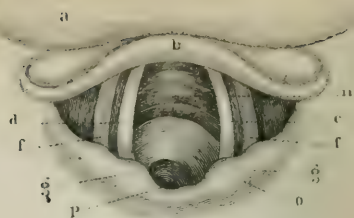


Fig 2.

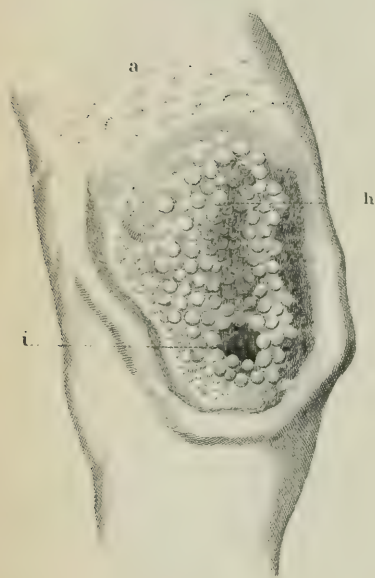


Fig 3.



Fig 4.

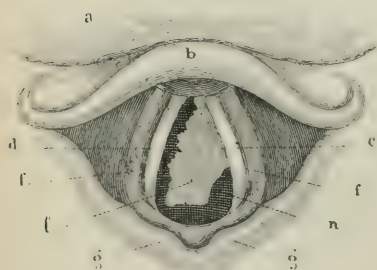
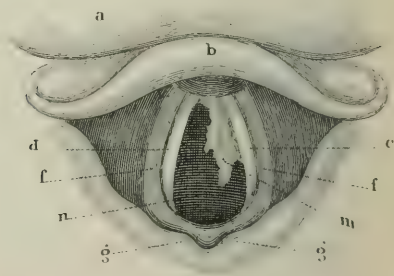


Fig 5.



a Tongue b. Epiglottis. c. Left vocal cord. d. Right vocal cord. e. Pedunculated Polypus.
 ff. False vocal cords. gg. Arytenoid Cartilages. h. Cauliflower. Growth. i. Air passage. k.
 Present Appearance. l. Carcinomatous Growth before operation m. After operation.
 n. Trachea. o. Diaphragm-shaped membrane. p. Air passage.

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Original Communications.

ART. I.—*Contributions to Practical Laryngoscopy. Four Cases of Morbid Growths within the Larynx.* Reported by A. RUPPNER, M. D., Physician to the New York Dispensary for Diseases of the Throat and Chest.

OPERATIONS performed within the larynx through the oral orifice (intralaryngeal operations) must be reckoned among the most subtle and difficult in the whole field of practical surgery, especially so long as we are without a safe and sure local anæsthetic applicable in these emergencies.

Since the introduction of practical laryngoscopy but few years have elapsed, yet, from the day that Prof. Von Brüns, of Tübingen, removed first a polypus from the larynx of his brother, to the present, the cases in which permanent or temporary relief has been given by intralaryngeal operations have been so numerous as almost to create a new era in the treatment of laryngeal disease, and to become worthy of the most careful study.

There are several *desiderata* upon which the success of this distinct class of operations must depend. Some of these are

yet to be solved satisfactorily, while others depend solely upon patient and operator.

A consideration of a few of these may not improperly precede the history of several instructive cases which occurred in my practice :

1. *The want of a sure and safe local anæsthetic*, to be used during operations within the larynx, is severely felt. We do not operate with chloroform or ether in dead cavities, in which we can remain a longer or a shorter time, just as it suits us, with instruments; but our work is regulated by seconds, and hardly is the cavity entered, than we are forced again to depart. The larynx will assert its independent rights in spite of ourselves.

Von Hütte suggests the application of a solution of bromide of potassium to the fauces; Gibb recommends the use of the same drug internally; Türk favored a solution of morphine in chloroform, which he applied with a camel's-hair brush not only to the fauces, but also to the interior of the larynx; Tobold and other observers give preference to cold water or strong alum-injections, applied through one of Mathieu's or Lewin's *pulvérisateurs*. I have found this last method the most satisfactory in my practice. During inhalation the mouth must be brought in juxtaposition with the point of the apparatus from whence the spray escapes, in order to get the benefit of the full force of the spray-current. After ten or fifteen minutes the usually irritable pharyngeal mucous membrane is generally so quiescent that the mirror or other instruments can be introduced *ad libitum*. The result here is analogous to the application of cold to other members of the body externally.

More than upon the action of anæsthetics, however, the result of the operation depends :

2. *Upon the due preparation of the patient for the operation, his individuality and disposition; the space and form of his larynx*. Considering the preparations for such operations, it is, first of all, important to deaden the sensitiveness of the velum palati by the introduction of mirrors, often repeated. At the same time the patient is urged to stretch out his tongue, and to open the mouth as wide as possible.

The passage will widen gradually but surely. Then let catheter-shaped instruments be introduced as far as possible into the larynx, such as protected scarificators or polypus-forceps or scissors. A small sponge, attached to a curved wire with handle, saturated with a solution of argenti nitratis (if deemed advisable), may not only be introduced daily, but can be given to the patient in order to practise at home the manœuvre of holding the tongue and introducing the instrument. Patients learn these manipulations very readily—some get quite expert.

Again: the size and form of the patient's throat are important features. That the greatest diversity exists in the size and shape of the cavity of the mouth, fauces, pharynx, larynx, and epiglottis, need hardly be stated. In a large throat, tonsils normal, palate elevated, larynx of above medium size, and epiglottis erect, intralaryngeal operations are performed with greater chances of complete success than when the parts mentioned are diseased or the epiglottis is depressed posteriorly.

Speaking of the position of the epiglottis, it may be mentioned here that Von Brüns and Voltolini have sought to remedy that defect by taking hold of it by means of forceps or a hook, retaining it in an erect position during the operation. But, I am willing to acknowledge with others, who have tried the experiment, that it has been next to impossible for me to accomplish it, because none of my patients could endure the contact of an instrument, when applied to the epiglottis, long enough, without being obliged to let it go again presently on account of the reflex irritation produced.

3. *The extent of the growth and its mode of insertion demand consideration as elements entering into an operation.* By the peculiarity of the insertion of the growth to be removed must be decided the method of operating, quite as much as by the character of the neoplasm itself.

The polypus, with stem-like attachment, can be extirpated in one operation where the individuality of the patient and the favorable condition of the mouth, fauces, pharynx, larynx, and epiglottis, permit it. But the operation of *decision* may have to be resorted to if a condition opposite to the one just mentioned exists.

Some think that, as to time, there is little if any difference between *excision* and *decision*. But, in operations in the laryngeal cavity, where *seconds* count, there is a marked difference as to time between these two operations. Decision requires only a *moment*, an *instant*, and it is done; excision demands at least four times as much, which period is principally lost in the adjustment of the polypus-scissors, or the *écraseur*, if that instrument be selected for use.

Every attempt to destroy a polypus by caustics is to be deprecated. I have seen one case where a patient has been treated with all possible applications of caustics for months, in order to destroy a pedunculated polypus, but without any success.

Growths with a broad base or attachment are amenable to different treatment. It is a question for the surgeon to decide whether preference shall be given to decision, or crushing, or to the application of caustics, provided the nature of the neoplasm be considered as well as the attachment.

4. It cannot be too much insisted upon that, in operations of this nature more than in almost any other branch of surgery, we must act with skill and perfect composure. To this must be joined a well-practised hand, and a desire on the part of the patient to coöperate. The left hand must be as serviceable as the right in using mirrors or instruments. Nor can this dexterity be turned to the best account unless we can command a good light to illumine the throat and larynx—a light that remains the same throughout in intensity. No other combination surpasses, at present at least, the admirable apparatus of Tobold, with three lenses, in simplicity, steadiness of light, and power.

CASE I.—*Pedunculated polypus on the right vocal cord; cough; dyspnœa, aphonia; danger of suffocation; extirpation; recovery.*

Mr. St. —, of R—, Pa., aged thirty-nine, merchant, consulted me February, 1866, at the recommendation of some friends.

History.—Always enjoyed good health till, about two years ago (winter of 1863), he had a slight attack of catarrh with sore throat. Recovered under medical treatment, but noticed that he became more and more liable

to catch cold; that these colds were, each time, of longer duration, and yielded less readily to treatment.

Gradually his voice grew weaker, till, eight months previous to consulting me, the aphonia was complete. Accompanying the aphonia was increasing difficulty of respiration, especially at night; when lying on his right side, he sometimes experienced a feeling of suffocation. He had received no benefit from medical treatment, as the true nature of his complaint was never understood until examined by myself with the laryngoscope.

Status, February 12, 1869.—Body well built, chest well developed, respiration vesicular, no dulness on percussion, heart normal. The larynx externally examined normal, no pain upon pressure anteriorly or laterally, epiglottis natural to the touch of the finger; hyperæmia of the pharyngeal mucous membrane.

Examination with the Laryngoscope.—Epiglottis depressed toward its posterior surface and congested, ary-epiglottic ligament, false vocal cords and ventricles hyperæmic. The true vocal cords appeared of a dirty-red color. Attached to the anterior free border of the right vocal cord was a fleshy, pedunculated grayish-red polypus nearly as large as a pea, as shown in the accompanying plate, Fig. 1.

The arytenoid cartilages are normal in their motion; in speaking, the polypus is raised obliquely from right to left across the glottis.

The patient's throat was admirably adapted for laryngoscopic examination, aided by patience on his part that was truly commendable. This case was shown to several medical gentlemen who happened to visit my office during treatment.

Treatment.—Extirpation. For this purpose, I introduced daily, during one week, laryngeal mirrors and instruments. Several times the larynx was touched with a solution of argenti nitratis. For three days a strong alum solution was inhaled through Lewin's apparatus, for about fifteen minutes each time. The parts were thus rendered much less sensitive. Bromide of potassium, taken at first internally, produced no perceptible effect.

Operation, February 20th.—The alum injection was first used to produce partial anæsthesia. The patient sat with perfect composure, my assistant holding the head steady in the proper position, somewhat bent backward. Mr. St. —, who had, by constant practice, acquired great control over his tongue, held it firmly with his left hand, at the same time, if necessary, ready to depress the root of it with his right index-finger, or with a tongue-spatula.

Watching carefully the favorable moment of expiration, I introduced quickly, with my left hand, the laryngeal mirror into the pharynx, while with my right hand I promptly carried into the larynx the catheter-shaped, curved polypus-scissors of Tobold, and separated the polypus from its attachment by two incisions following one another in quick succession. A paroxysm of coughing supervened, accompanied with some bloody sputa.

I applied cold-water spray with Mathieu's apparatus for ten minutes, after which hæmorrhage ceased, and I could introduce the mirror again without difficulty.

The point where the polypus was attached was clearly seen. After an hour of rest, I reëxamined the patient; there was no hæmorrhage, but some burning sensation and soreness at the point of incision or separation. Strictly enjoined not to attempt to speak, he was dismissed. In four days the aphonia was much less marked, the voice still husky. I continued to touch the interior of the larynx with a solution of argenti nitratis, thirty grains to the ounce of water, which resulted in a complete restoration of his voice. Had it not been for the inflammation of the mucous membrane lining the ventricles and false cords, the voice would most probably have been restored soon, if not immediately, after the operation.

Under the microscope, the polypus was found to consist of delicate fibres without nuclei in a transparent basement membrane, with innumerable epithelial cells. Patient recovered completely, and is well to this day.

CASE II.—Large, non-malignant, cauliflower growth, involving the entire epiglottis, left ary-epiglottic fold, left ventricle, and vocal cord; extirpation of the epiglottis; complete recovery.

Mr. J. R. F——, of New York City, aged fifty-nine, lawyer, consulted me November 30, 1867.

History.—Has always enjoyed good health till, in the fall of 1866, he first felt a slight soreness of the throat, producing a constant inclination to swallow. Saw his physician, but continued to grow worse. Changed physician several times, and continued treatment for months, without signs of improvement. Instead of getting relieved, the soreness of the throat increased, and the difficulty of swallowing food grew in the same measure, causing daily more distress.

In the spring of 1867, a prominent physician of this city was consulted, who prescribed quinine pills and a gargle of carbonic-acid water. These directions were implicitly followed for months. During warm weather patient thought he improved, but in the fall he was worse than ever. Lost strength speedily and became emaciated; voice grew weaker and weaker. The process of swallowing even water became now (September, 1867) so troublesome and painful, that Mr. F. was obliged to have his meals served to him alone in his room, so disagreeable was it for the rest of his family to witness his efforts at eating, not to speak of his own distress. "Growing desperate," to use Mr. F.'s own words, "at the fear of being slowly strangled to death, or obliged to starve, I sought other means of relief." In this condition friends sent him to me November, 1867.

Condition, November 30, 1867.—Eyes sunken; countenance pale; very much emaciated; depressed; able to whisper only; constant inclination to swallow and fear of choking. Chest well developed, some dulness on per-

cussion over the upper left lung and right mammary region; respiration labored; traces of recent bronchitis. Expectoration abundant and yellow; appetite fair; bowels regular; sleeps tolerably well, though almost in a sitting posture; no hereditary trace of scrofula.

Laryngoscopic Examination.—Strange to say, incredible as it may seem, none of the numerous medical advisers of Mr. F. ever thought of, or at least subjected him to, an examination with the laryngoscope, or even made a digital examination of the epiglottis, which course here adopted, as will be seen, at once revealed the true situation.

The pharyngeal mucous membrane, highly congested, showed traces of old and recent extensive ulcerations. Near the median line, beginning about three-quarters of an inch above and behind the uvula, and extending downward in the same course, were numerous phagedenic ulcers, the largest of the size of a gold dollar, some much smaller. To the touch, these grayish-yellow ulcers, depressed in the centre and covered with pus, were painful, and bled easily.

Hence it was at first extremely difficult to introduce the laryngeal mirror. The application of solid caustic to the ulcers soon cured them, and alum-spray allayed the irritability of the pharyngeal mucous membrane. Examination now revealed the presence of a large, lobular, grayish-white growth or excrecence, involving the entire epiglottis, the left ary-epiglottic fold, extending into the cavity of the larynx, hiding the vocal cords.

The whole resembled rather a cluster of berries springing from the sides, apex, and body of the epiglottis, and hanging over into the supraglottic space with attachments here and there. In the centre of the growth a funnel-shaped opening was seen, through which a round object of the size of a goose-quill might have passed. This was the only point of communication with the glottis below, affording an egress for the air.

Fig. 2 (see plate) represents the status of Mr. F.'s larynx, November 30, 1867, as seen in the laryngeal mirror. Looking at the neoplasm from the apex of the epiglottis, it appeared largest in the centre and tapered gradually off toward the arytenoid cartilages. When touched with the forceps, pieces readily crumbled off without signs of hæmorrhage. In fact, the separate lobules of which the growth was composed were easily disintegrated, looking like pieces of old dry cheese to the naked eye. Much was thus thrown off in the sputa, especially after coughing, as I repeatedly observed.

Diagnosis: Berry-like Papilloma.—Examined under the microscope, all the characteristics of this class of neoplasms were demonstrated. This papillary tumor, according to Tobold, consists of ramifying papillæ, which rise up from the trunk-like extension of the basement membrane. On transverse section, such a tumor exhibits a conical, quite vascular structure, proceeding from the basement membrane, which sends out peripheral branches and twigs, from which again papillæ proceed. In this case the whole presented a distinct lobulated mass.

Prognosis.—Favorable.

Treatment.—The removal of the excrescence. Applied Lugol's solution and chromic acid almost daily for two weeks. At the end of that time there was only a slight improvement, but at the expiration of the third week the mass had shrunk considerably. Pieces were also removed every few days with the forceps—no hæmorrhage. As the growth was most intimately connected with the epiglottis, impossible to be separated from it, the destruction of the latter could not be avoided. The mass flattened toward the base, and the funnel-shaped opening gradually also enlarged. "At the end of three weeks," writes my patient, "the improvement was so marked, that I was able to take my meals with my family again."

The same treatment was now steadily continued. The growth yielded rapidly, and with it the epiglottis disappeared. Fortunately, that portion which hung in clusters around and into the supraglottic space was loosely attached to the parts below, and readily separated. After three months not a vestige of the growth remained. The vocal cords were normal; the voice grew gradually stronger; the emaciated, pale countenance of the patient had given place to one full of color; appetite, ease of swallowing, and strength, combined to change the man. Mr. F.'s changed appearance created no little surprise among his numerous friends.

Fig. 3 (see plate) represents Mr. F.'s larynx as it appeared after four months of treatment.

This patient had fortunately remarkably large fauces (though very irritable), and a larynx above the average size, which rendered it well adapted for demonstrations. It was shown to Dr. Kenney, Dr. Cooper, of Poughkeepsie, Dr. Knight, of Boston, and numerous other medical gentlemen and students who visited my office.

It has been my extreme satisfaction to witness the complete restoration of my patient to health. From the non-malignant nature of the neoplasm I apprehended no return of the malady. My expectations have thus far been realized, as there has been no relapse up to this date. Yet, I still see the patient occasionally. Sometimes he is troubled with catarrh, accompanied with ulceration of the pharyngeal mucous membrane and submucous tissues, which, however, yield readily to treatment. The broad, flat margin of the base of the epiglottis is grayish white in color, and painless to the touch.

Résumé.—The question has been repeatedly asked, whether the loss of the epiglottis does not interfere with the act of swallowing? Does not, in such a case, the food, when swallowed, pass more frequently into the larynx, and cause cough and symptoms of choking? These queries, if I judge rightly from the observations of the case just recited, must be answered in the *negative*.

In health, the epiglottis closes the larynx during the act of swallowing, so as, no doubt, to prevent the passage of food within. In this case (and why may we not suppose, by way of analogy, in all cases of loss of the epiglottis, the same to happen?), in order to supply the deficiency, the parts are seen gradually to approach one another from all sides, or rather they seem to be drawn toward each other by force, just as when a bag is drawn tight with a string. I have closely watched this manœuvre in my patient during involuntary, forced acts of swallowing. The contour of the larynx looks like a little funnel, the free margin of which is drawn toward the centre. This case, then, is interesting and important, in so far as it proves that the epiglottis is not essential in the act of swallowing food or fluids; that, if this safety-valve of the larynx is lost, Nature will erect another bulwark for her own protection.

This case furnishes another cause for reflection. That this patient might have been saved much suffering, had he been examined earlier under the laryngoscope, cannot be denied. It is equally certain that, had he continued in the condition he was found to be, November, 1867, life, from the mere fact that the larynx was gradually yet surely closing, and that neither food nor fluids could be swallowed, must have ended shortly amid inexpressible sufferings of suffocation and starvation. Can, then, the importance, as well as the advantage, of a thorough laryngoscopic examination be questioned after such evidence? Is it pardonable, hereafter, in a physician, in any case of doubtful throat-disease, to refuse to avail himself of the advantages science offers in this particular? No matter what anxiety and responsibilities this case had imposed upon me, I was amply repaid by the result.

CASE III.—*Large malignant tumor, involving the infraglottic space and trachea; cough, dyspnœa, aphonia, danger of suffocation, attempt at extirpation; laryngo-tracheotomy.*

Mr. B——, of B——, Mass., aged about thirty-six or forty, sea-captain, was sent to me for examination by his physician, Dr. Swan, of the Astor House, New York.

History.—Has always enjoyed good health, for a man subject to the exposures and hardships of his calling. Three years ago he was shipwrecked.

In consequence of several days of extreme exposure and hardships in the endeavor to save ship and cargo, his health became impaired, manifested by the advent of cough and occasional loss of voice. After shorter or longer periods, sometimes with, sometimes without treatment, he recovered his voice, though each renewed attack left its traces behind; its quality became more and more impaired. Although he placed himself again under treatment, the hoarseness increased, till most of the time he could only speak in a whisper.

In this condition Captain B. presented himself at my office, March 23, 1869, for examination.

Condition.—Body well developed and finely proportioned; chest large and movements regular; breathing vesicular; no developed disease; heart normal. The external region of the larynx presented nothing abnormal; slight pressure on either side, or upon the anterior surface, caused no particular pain. Pharyngeal mucous membrane moderately congested; no effusion; no evidence of recent or old ulcerations. Inspiration easily audible, accompanied by a peculiar shrill sound. Voice gone; able to whisper only. General health good; appetite fair; sleeps well.

Laryngoscopic Examination.—Epiglottis depressed posteriorly, so as to hide from sight one-third of the contour of the supraglottic space; its free border and apex show traces of recent ulceration; anterior surface slightly inflamed; posterior surface much more so. Owing to the depressed and irritated condition of the epiglottis, some days elapsed before a complete view of the interior of the larynx could be obtained. These obstacles removed, the ary-epiglottic folds, ventricles, and false vocal cords, were found to be congested. The right vocal cord presented a dirty-gray color, yet normal in its action. The left vocal cord, on the contrary, remained stationary, held back by a grayish red-looking mass attached to its lower surface. During the act of expiration, when told to pronounce the letter *ā*, or to shout, or to laugh, the free border of this mass, smooth, thin, readily moving to and fro, was clearly seen to project forward and upward into the free space of the glottis, obliterating it almost entirely. Upon *inspiration*, this same part of the growth, the base of which was clearly attached to the left wall of the trachea, would sink back again into the space below, leaving the free space in the glottis larger than during expiration. The vibratory motion of this part of the growth might fitly be compared to the opening and shutting of a valve.

Fig. 4. (see plate) represents the glottis during the act of expiration with that portion of the growth exposed to view, as I demonstrated it to numerous medical gentlemen on different occasions at my office—among them Drs. Swan, Sayre, Dunster, Dudley, Cooper, Kinney.

Diagnosis.—From the first I was inclined to regard this growth as very dangerous in character and malignant in type. Appearance, rapidity of growth, position, symptoms, all were against the case. Still I hoped to be able to arrest the disease in its progress upward by removing with instruments portions of it, and by local applications to keep its growth in

check. My great fear was its downward progress—its descent into the trachea—and then already suggested the possible necessity of the operation of tracheo-laryngotomy.

Subsequent results still more confirmed my apprehension. Whenever an instrument was brought in contact with the mass *in situ*, it bled readily—profusely at times. Pieces of the size of a large pin's head were removed with the forceps, and also coughed up at intervals by the patient, followed always by hæmorrhage. Much may have been expectorated, as often the sputa were tinged considerably with blood.

The portions, after being removed or expectorated, when examined, were of a lobular, cauliflower appearance, of a soft, lardaceous consistency, and of a grayish-red color. Examined under the microscope, these lobules were found to consist of cancer-cells, varying in type, some being oval, some round, others globular with distinct nuclei, in some two, and more in others.

Considering, then, these specific characteristics described with the rest of the symptoms collectively—pain, tendency to hæmorrhage, color, consistency, form, and rapidity of growth—the carcinomatous nature of the tumor was established beyond a doubt.

Prognosis.—Unfavorable.

Treatment.—To remove as much as possible of the growth, *per vias naturales*, thereby relieving the aphonia and dyspnœa, and later, if necessary, and as seemed most probable, to have recourse to laryngo-tracheotomy, should the growth encroach too rapidly upon the free space of the trachea.

After a week's practice with the mirrors, the irritability of the fauces was in a great measure overcome, and I had no trouble to demonstrate the neoplasm to my medical friends.

I touched the larynx daily with Lugol's solution, bringing the brush directly to bear upon the mass, which, after a short time, seemed to contract under its use. Captain B. began to speak louder and to breathe freer, nor was there any pain in swallowing at that time. Dr. Swan, who saw the patient from the first, was also of opinion that the tumor grew smaller and the voice more powerful. This latter fact was apparent to all of the captain's friends.

During a temporary absence of the patient the good accomplished was nearly lost. Then I decided to use the forceps to remove what I could of the growth. My efforts in that direction were, however, arrested by the profuse bleeding that followed, each time small lobules were torn away. I next resorted to *decision* of the part *in situ*. Several incisions were made at the favorable moment with the catheter-shaped, covered lancet of Tobold. Hæmorrhage followed: next day the part *in situ* showed signs of suppuration. The result of this operation was gratifying, as the patient, after a few days, when the result of the incision became evident, gained again in voice, and his breathing was much relieved.

Fig. 5 (see plate) represents the larynx with the tumor *in situ* in the glottis, after the operation of *decision*.

Still another relapse followed, accompanied by considerable difficulty in swallowing. I became more and more satisfied that, although I was opposing the enemy with considerable success in its progress above, the disease was, at the same moment, rapidly encroaching upon the trachea. This truth was still more forcibly brought home to me by the appearance, in the latter part of July, of an enlargement in the left side of the trachea, increased sensibility upon pressure, greater difficulty in swallowing, and a feeling, when lying down, as if something loose was hanging from its attachment on the left to the right side. Pain in the left ear, dizziness in the head, increased paroxysms of coughing, and profuse expectoration, were now added. No wonder the captain became at times alarmed about himself. I now had recourse to the application of chromic acid, followed by some relief, at least, of the distressing symptoms. Business called him repeatedly to Norfolk, Virginia, in June, July, and August, though he paid me visits from time to time. Owing to the increased gravity of the case, I laid before him the necessity of an operation (extra-laryngeal), but could not get his consent at the time.

August 13, 1869.—Captain B. arrived by steamer from Norfolk, in company of Dr. Parish, late surgeon on the staff of General Lee. Dyspnœa, cough, paroxysms of strangulation, and inability to swallow food, had become so alarming that the doctor had to accompany the captain. Countenance livid, hands cold, pulse weak, nervous system prostrated, expression anxious; such was his condition.

August 16th.—*Operation of Laryngo-Tracheotomy.*—My friend Dr. L. Sayre, who had seen, at my request, the patient at a former consultation, consented to divide with me the responsibility and to aid me with his experience and skill in performing the operation, so as to give me free scope for observing the course, position, extent, and nature of the tumor, and to direct such a course as the progress of the operation might demand. I had also the valuable assistance of Drs. Dudley, Parish, Swan, Zolnowski, and several others.

It had been decided upon to perform, first, tracheotomy, so as to give the already much-exhausted patient an opportunity to breathe freer; then to divide the thyroid and cricoid cartilages in the median line in order to reach the tumor, and to extirpate, if possible, if not the whole, at least part of it. When the larynx and part of the trachea were exposed to view, after careful dissection of the adjacent parts, the trachea, as far down as the sixth ring, was found to be enlarged, principally on the left side, though the enlargement extended across the median line about half an inch. To the touch this enlargement was rather hard and immovable. None of us had anticipated that the growth had progressed to such an extent into the air-passage below. The chances for a successful termination of the operation had nearly vanished. To attempt to remove the tumor in the then exhausted condition of the patient, coupled with the additional danger in-

volved on account of the extent of the disease and the parts affected, would have been foolhardiness. Division of the cricoid cartilage and first ring of the trachea and so much of the mass lying below as was necessary to get the canula into the trachea, was at once determined upon. This would rescue the patient, at least, from immediate danger of suffocation, afford him a chance to recuperate his strength, and, perhaps, admit, at some future time, of a supplementary operation. No untoward event happened when the incision was made and the canula introduced. When the effect of the anæsthetic had passed away, the patient, though much exhausted, breathed easier and fell into a slumber. When I visited him in the evening, he was a changed man.

The next day, August 17th, he exhibited some symptoms of pneumonia, which yielded, however, to treatment in twenty-four hours. Mucus and blood were discharged from the canula, but the wound caused little or no pain. The process of eating and drinking, at first a little difficult, soon became perfectly easy. On the fifth day the stitches were removed. There was some soreness and discharge around the canula. The greater force of the left larger division of the tumor twisted the canula somewhat toward the right. On the sixth day the patient sat up, and could attend himself to the cleaning of the tube, eat with comfort, and move about. A laryngoscopic examination showed the growth distinctly, grayish red in color, nearly closing the glottis. He spoke, of course, only in a whisper.

The progress now made from day to day was surprising. He lost that anxious look, relished his food, and slept well. He could breathe easier and take a deeper breath than he had done for years. August 25th, being obliged to visit a patient in Montreal, I saw Captain Bigelow for the last time. He also made preparations to return home the next day. Before leaving he called upon Dr. Sayre, who cauterized the wound, as it had become irritable.

From a letter received from this patient, dated September 9, 1869, I make the following extracts: "I endured the journey from New York to this place remarkably well, but was considerably fatigued and troubled with the dust; have been gaining ever since I came here. Have walked and rode, and am becoming expert in the arts of eating and drinking, both of which I do now without putting my finger on the tube or otherwise closing it. The wound in the throat is healing full as well as could be expected."

Nothing has been elicited from the captain since the above date, till a short time since I came in possession of the following statement of his case, brought down to the date of writing:

"When I first got home, I improved in strength and general health very rapidly for eight or ten days—but continued to cough a good deal—raising much mucus, varying from clear white to yellow, often streaked with blood—frequently a good deal of blood, as I had ever since the operation. Scabs formed below the tube, which I would several times each day cough up with more or less difficulty, and this has continued to the

present time. At first, had four or five of them each twenty-four hours—raising them always with severe coughing and more or less blood, in quantities from two tablespoonfuls down to occasionally a very minute quantity. The scabs sometimes are so large and hard, and get stuck so fast, that, even with *small* tube removed, I have been many times nearly strangled. Lately, however, they have been much reduced in size, more irregular and healthy in appearance.

“For two or three weeks my cough, though very frequent through the day, was much worse at night, and as I could not cough alone, I was compelled to have my wife up to assist me, sometimes twenty times per night. As this was wearing us both out, I began to take on going to bed twenty to twenty-five drops McMunn’s Elixir, and this opiate immediately gave me quiet sleep and rest free from coughing. To relieve my cough and pains, and give me quiet sleep, I have continued this to the present time. I have had considerable bronchitis, and had one bad cold—just now I have no cold, and less bronchitis. Still I cough up a good deal of mucus and blood. Some of this blood we know must come from the trachea *below* the tube. Some of it we also know comes from the tumor *above* the tube—as, when it has a bleeding-turn, we can see it dripping in through the hole in upper part of the tube. When I left New York, as you saw, suppuration was going on inside and oozing out around the tube—this continued and increased, so it was difficult to keep my throat tolerably clean until middle of September, when it ceased. While active it had much odor, as also had my mouth, *when held open*, though kept as clean as possible. We had great hopes that this suppuration would work a favorable change, but it stopped almost in a day. The tumor had previously somewhat enlarged, but now it grew faster in size, and got very hard, all around the tube, especially above and on left side. I had a good deal of soreness around the tube—and as this hardness and swelling increased, so also did the pain. My left ear began to ache severely and almost constantly, as before the operation.

“Immediately around the tube, a *ridge* or swelling formed, harder than any other part. During all this time *proud flesh* had never ceased to grow, since the first that you cauterized in your office. We had continued to cauterize it—but as fast as it was killed in one place it appeared in another; this fungus gradually changed in appearance, cauterizing became painful—burning, smarting pains lasted often for hours after the application—the pains of each thorough dressing and cleaning of my throat morning and evening were exquisite. Still this fungus was pronounced ‘*proud flesh*’ and cauterized. At last Dr. Martin (our family physician, who you may remember as present at the operation) applied a paste, which he thought would have different and better effect than caustic—but two applications were made, as the swelling around the tube increased—the *ridge* above-named was forced up into quite a *hillock*, through which the tube appeared, and was forced far away to the right side of its original position.

During these painful days and weeks, the changes from day to day were remarkable. At last this 'ridge' from an angry red grew purple, then black, and at one morning's dressing my wife removed the whole of it without difficulty—a dead, rotten mass of decayed flesh—and it left a trench around the tube, about three-eighths of an inch wide and deep, and not a bit of proud flesh was to be seen, but on the left side, close against the tube, was a dark, rough, warty growth, as large as a full-sized pea, and larger—looking ugly enough. It had no attachment to the flesh beside it, as it and the flesh could be pressed apart easily. While the flesh adjacent was exquisitely sensitive to the touch, this 'growth' had no sensitiveness at all, but could be pressed with the point of a knife, without any feeling, though it was easily provoked to bleeding. There can be no doubt but what this is a part of the original tumor which has forced itself out of the windpipe and through to the surface, beside the tube. From that time, till a week since (about eleven days), my wife used morning and evening to take away portions of this matter which would 'slough' off the tumor. As this diminished, suppuration began again; the swelling all around the tube—or rather the great tumor in the trachea—which was so large and swollen and hard before, became greatly reduced, and when the 'sloughing off' ceased, suppuration became more active, with very offensive odor—this has gradually decreased, till now the suppuration is but slight, and the 'trench' around the tube, that for a time was a ghastly sight, is now nearly healed up—but next the tube the tumor has extended, and at present it can be seen *two-thirds the way around the tube*, and the original tumor inside the trachea has so enlarged and expanded it, that it appears now more than twice as large as at the time of operation, and is almost as hard as a stone. Coughing and bleeding continue as before, much blood comes from the tumor, and considerable comes from the lower trachea, if not from the bronchial passages. I cannot believe that the tumor has extended below the tube yet—but certainly there is more difficulty in breathing, that is, even when free from scabs and mucus. I do not inflate my lungs as freely or as easily as I did five or six weeks ago, and breathing generally is not as easy.

"This may be owing to irritation and inflammation about the inner end of the tube making the passage smaller, or, it may be the growth of the tumor, encroaching on the passage into the tube—or something else beyond my ken may occasion it; I cannot and dare not even guess what it is! During the time the above-named 'ridge' was forming, and even until the subsequent 'trench' was nearly healed, I had almost continually sharp, stinging, darting pains around the tube—not extending far from the tube, but all radiating from that as a centre—sometimes the hole in which the tube is inserted would feel as if filled with a red-hot iron or live coal, so intense would be the pain; at other times the pain was less, and more as if it was filled with a *chestnut-burr*; at other times the stinging, burning, darting pains would follow each other in quick succession, appearing to me, especially when asleep, like so many irregular shots fired from one centre,

but mostly to the left side—all this time the pain was most exquisite while the throat was being cleaned and dressed, and, soon after the first application of warm water, with a soft camel's-hair brush, it would invariably become so severe, that I could scarcely endure it.

"This has lately gradually diminished, till now I have none of the pains mentioned, and but little tenderness about the parts when under cleansing treatment, and I should here say that, through the most painful period mentioned, there were intervals of comparative comfort and relief, but they were short and irregular. The tendency to left-ear-ache has been almost constant for nearly a month past—much of the time it is dull, and not very hard; but it has paroxysms of very severe aching pain in left ear—doubtless caused by inflammation and enlargement of the throat, affecting the nerve in some way that you understand, but I do not. When the earache comes on quick, and sharp, it has frequently, within the last ten or twelve days, been accompanied with aching of all the teeth on left upper jaw—but this has never lasted more than fifteen or twenty minutes at a time. Respiration, as I have said, is not as free as it was a few weeks since. I have to be careful to avoid the cold air, as it goes so directly to my lungs that the effect is bad; when the weather is warm I walk or ride out, but at other times I keep the house pretty closely, with rooms kept warm with wood-fires, and fresh water steaming to moisten the atmosphere. I do not feel as strong, nor can I endure the exertion I could a few weeks ago, and my appetite, which was then strong and hearty, is now poor and variable."

The above account needs no comment. The rapid progress of the growth foretells also the sequel.

Résumé.—For three years the patient was suffering and constantly getting worse, yet his true condition remained untold until he was subjected by myself to a laryngoscopic examination. This much the captain used to grant, that for the first time he had been told what ailed him; and I think also my diagnosis and prognosis were correct. What might have been the result, had the disease been discovered in its incipient stage and treated accordingly, cannot now be told. It may, however, be asserted that if the disease, as subsequent results have shown, was malignant, it would not have been arrested or eradicated. Still, could not its progress have been retarded, and thereby the patient's life prolonged?

Again, local interference through the mouth accomplished all that reasonably can be claimed for it in a case of this nature. It gave the patient comfort—it helped to prolong his life.

The operation of tracheo-laryngotomy, had it been per-

formed earlier, to which Captain B., however, most strenuously objected, as well as his friends, might have resulted in great good. Undertaken, as it was, at the very latest moment, under conditions of great danger, it still was a success, and accomplished all we had a right to expect.¹

CASE IV.—*Diaphragm-shaped fibro-cartilagenous membrane in the trachea ; aphonia ; difficulty of swallowing ; partial division of the membrane.*

Mrs. D—, aged twenty-five, a patient of Dr. L. A. Sayre, was brought to me by that gentleman for laryngoscopic examination.

History.—Always enjoyed good health. Was married December 6, 1866. Three weeks after had unmistakable symptoms of constitutional syphilis, communicated to her by her husband, who at that time was under treatment for this disease.

In the month of March, 1867, her voice began to grow weak, and continued to get worse till the latter part of July of the same year, when it became almost impossible for her to talk aloud. Continued to whisper, when one day, in the endeavor to speak aloud, she found her voice gone entirely. She continued the same, when Dr. Sayre, under whose treatment she had lately placed herself, justly alarmed lest the syphilitic disease might have invaded also the larynx, brought her to me for examination, July 7, 1869.

Condition.—Much emaciated, pale, anæmic, speaks in whispers only, complains of difficulty in swallowing, oppressed for breath occasionally, no cough, lungs healthy, heart normal, right ala nasi gone, and the arch of the soft palate perforated by the constitutional disease. Has likewise caries of the right patella.

Laryngoscopic Examination.—Nothing abnormal in the appearance of the throat, nor in the supraglottic space of the larynx, as might have been reasonably expected considering the disease to which she is subject. The vocal cords, though somewhat inflamed near the free margin, and relaxed, acted normally.

Directing now our attention to the state of things below the glottis, I saw, during rapid, quiet respiration, between the first and second tracheal rings, a grayish-white membrane, extending like a diaphragm across the trachea, closing up the whole free space with the exception of a small oval hole, large enough for the passage of a goose-quill, through which the air found its only ingress and egress.

Fig. 6 (see plate) represents the larynx with a view of the membrane during deep inspiration, as it appeared in the laryngeal mirror.

¹ A case very similar to the one related above was referred to me for treatment three years ago, by Dr. Cooper, of Poughkeepsie, N. Y. The subject was a lady, the growth cancerous, resulting fatally seven months later.

Here, then, was the mystery solved at last! Instead of finding extensive disease in the larynx, as might have been reasonably expected, to which might have been ascribed the loss of voice, etc., this aphonia had its clear solution in the beginning and gradual growth of this diaphragm-shaped membrane across the trachea. The vocal cords in this case acted also independently of the disease below, instead of being involved in the same, as it generally happens in these very rare cases. If, for example, the patient was requested to pronounce the diphthong "æ," the vocal cords approaching one another hid the membrane below entirely from view.

Demonstrations of this case were repeatedly made to Dr. Sayre; also, at his request, on account of the peculiarity and rarity of the case, to Dr. Pelechin, Professor of Surgery at the Medico-Chirurgical Academy of St. Petersburg, Russia, to Dr. Cooper, of Poughkeepsie, Dr. B. W. Dudley, and others.

Treatment.—It was reasonable to expect that, if this membrane could be divided in the median line from apex to base, in the nature of things the voice would be restored and the difficulty of swallowing also relieved.

To operate, however, below the vocal cords, within an organ naturally as exquisitely sensitive as the larynx, was no easy task. For a month I subjected, therefore, this patient to the daily introduction of mirrors, forceps, etc., touched the epiglottis with finger and hook, applied astringents, obliged her to shout, if possible, to force the membrane forward and upward. Her larynx was very small in size.

But Mrs. D. most willingly entered into all these preparatory exercises with a patience that was truly commendable. The parts grew more and more callous. She held her tongue to perfection. Finally, August 2d, assisted by my friend Dr. B. W. Dudley, of this city, I made an attempt to divide the membrane. With one of Tobold's catheter-shaped, protected knives I approached, during a forced inspiration quickly, the membrane, when, instead of it yielding readily to the knife, I found myself cutting into a hard, cartilaginous substance. I felt the grating of the knife against the substance. This the patient corroborated by saying that she felt a disagreeable grating sensation in her very bones.

I made a second attempt, bringing to bear all the strength I had in my right hand upon the instrument, and had cut about half-way from the base toward the apex, when I was obliged to desist by sudden spasms of the larynx, which, of course, made it impossible to retain the instruments any longer. A little blood was expectorated.

Subsequent examination showed that the membrane had been divided about one-half. Mrs. D. did breathe easier, and suffered no subsequent pain. She whispered somewhat louder. Her exhausted condition and the irritation in the larynx obliged me to defer a further operation for a few days.

An operation for the excision of the patella having in the mean time been deemed imperative by Dr. Sayre, in consequence of which Mrs. D. has been confined to her bed ever since. but with good prospects of recovery, I have

been compelled thus far to postpone the operation for the throat until such time as she will be able to sit up without detriment to her knee.

Résumé.—It is certainly remarkable that, considering the sad havoc syphilitic disease was making in this amiable and patient young woman's body, the throat should have escaped and the larynx show no traces of it except this cartilaginous obstruction in the upper part of the trachea. Could not earlier laryngoscopic examination and interference have destroyed this growth in its incipient stage? There can be little doubt in that respect. But for the unfortunate yet unavoidable delay caused by the operation on the knee-joint, I feel quite certain that a second division of the membrane would have resulted in partial if not complete restoration of the voice.

This result I hope to be able to report ere long, with several other interesting cases of foreign growths in the larynx, now under my observation.

ART. II.—*Review of the Report of "Last Illness of Dr. Alden March."* By C. A. ROBERTSON, M. D., Ophthalmic and Aural Surgeon to the Albany Hospital, Albany, N. Y.

IN the October issue of the NEW YORK MEDICAL JOURNAL appeared a statement concerning the last illness of Dr. Alden March, which purports to have been prepared "for the information of the many friends and acquaintances" of the deceased. A reprint of this article has been liberally distributed among the students of the Albany Medical College, and elsewhere.

It is the purpose of the writer to examine the article critically, both in regard to the nature of the information it imparts, and as to its value as a contribution to medical science. It challenges attention on account of numerous peculiar features in the notions entertained respecting physiology, pathology, therapeutics, and facts.

The medical attendants of the patient were three in number, of whom Dr. James H. Armsby, elsewhere said to have been "nearly related" to Dr. March, is named first, as having chief charge of the case. Dr. Armsby, the attending physician, was seconded by Drs. James McNaughton and James P. Boyd

as physicians in counsel. Dr. March, it is stated, "was occasionally visited" by other physicians, but whether they concurred or disagreed with the physicians in charge, or only called as friends, is not stated. Incidentally, however, it is made to appear that they did not concur. But, dismissing these considerations, let us endeavor to learn what ailed Dr. March, what opinion was entertained by his medical attendants, and what was done intelligently for his relief.

Referring to this document, we learn that Dr. March was in the "seventy-fourth year of his age." He had been to New Orleans, returned, resumed "business with his usual alacrity;" had a "very fatiguing ride in the country, exposed to rain and cold." "Went to his bed quite ill with fever, restlessness, pain over the region of the bladder, great thirst, and constant desire to void urine." At night took cathartic. Next day "kept quiet, took diluents and small doses of opium during the day." "Next night had a warm bath, followed by Dover's powder." "In a few days" (how many not stated) "he was out again, and attending to business." "On the 6th day of June he was in his pew" at church, suffering great distress "from his old trouble." His old trouble was an affection of the bladder and prostate gland, as we are told, on the second page, that Dr. Tully, his former partner, died of disorder in this region, and Dr. March "remarked that he had the same disease." After the attack in church, he was conveyed to the residence of his son-in-law, and "there he remained until his sufferings were ended by death." "He seemed possessed, from the first, with the idea that he had a great accumulation of feces in the rectum, and *that* after very free evacuation from the bowels." "His most troublesome symptom was pain about the neck of the bladder, and an irresistible desire to void urine every fifteen or twenty minutes." "Seldom passed more than an ounce or two at a time," and "was passing daily from two to three quarts of apparently healthy urine." It is said that Dr. March had, for several months, "voided from three to six quarts daily," as he stated. Its specific gravity, during part of his illness, was 1005; later it became 1010. "Attention was early called to a tumor occupying the lower part of the abdomen, and distinctly traceable from the *pubes* nearly to the *umbilicus*." "The tumor was regarded as a dis-

tended and thickened bladder." "There was not, at any time, much difference of opinion regarding the nature of the case, or the proper treatment to be pursued." Exactly what the diagnosis was is not stated, and the reader is left to draw his own inferences.

Treatment.—At first, five grains of calomel and one of opium, as a cathartic, the first night; next day rest, diluent drinks, and small doses of opium. Under a distinct heading, we are told that "the treatment was *such as is usually pursued in such cases*, warm baths, fomentations, diluent drinks, anodyne injections, anodyne suppositories introduced into the rectum, etc." Every attention requisite was paid to regimen and nursing, and every urgent symptom relieved as speedily as possible. The use of a catheter "was chiefly resorted to as a means of exploration," and, therefore, does not properly come under the head of treatment. Still, it is convenient to note it here. The catheter was passed on two occasions: the first time, it is said, "the instrument passed, without difficulty, its whole length, without entering the bladder, but bringing away clotted blood!" The second time, "a few days before his death," the patient was chloroformed, and a "longer instrument than usual was employed." This "was passed readily the full length of an ordinary catheter," when it "met a firm, resisting body, and seemed to fall into a *cul-de-sac*, in which its point was fixed." "The first attempt to introduce a catheter was made about a *fortnight* before he died;" he died *eleven* days after confinement to the house.

"*Uræmic symptoms* became *more* marked in the last two days. Hiccough, delirium, and drowsiness, became more decided, his urine passed without effort, and, the last day, without apparent consciousness." The patient died on the morning of June 17th, the eleventh day after his distress in church.

Such, in brief, is a summary of what is prepared, printed, and published, for the information of the readers of this remarkable paper.

Under the head of "*Remarks*," a very few words of information as to *post-mortem* appearances are given, and some observations and queries are made, that are suggestive, at least, of another purpose than to enlighten those who have sought information regarding this most interesting and instructive case.

Before proceeding to analyze and estimate this paper, the reviewer will here introduce a report of the *post-mortem* examination of Dr. March, both because it has been inadequately presented by the medical attendants themselves, and because it will throw light on a just analysis of the narration of the nature and management of the case. This report was prepared by Dr. Edward R. Hun, at the request of Dr. Armsby, prior to the publication of the article under review, and received his approbation. Its correctness is also attested by the gentlemen whose names are signed to it, and by others who were present at the autopsy.

AUTOPSY OF ALDEN MARCH.

Body well nourished. Palpation of the abdomen revealed the presence of a hard globular tumor occupying the hypogastrium.

The abdomen was laid open by a crucial incision. The abdominal walls contained a considerable layer of adipose tissue and the muscles presented a healthy color. Upon turning back the flaps, the bladder was found to be distended, and occupied the hypogastric region from the pubes to the umbilicus, the fundus being a little to the left of the median line. There were some old adhesions between the omental and vesical peritonæum. A trocar was introduced into the anterior portion of the bladder, and rather more than a quart of slightly-turbid urine was drawn off. A longitudinal incision having been made along its anterior wall, the internal surface of the bladder was brought into view, and was found to present the reticulated appearance usually met with in cases where obstruction has been offered to the free flow of urine, but there was no abnormal thickening of the walls of the organ. A deep depression existed behind the prostate, owing to the enormous hypertrophy of this gland. A catheter was now introduced through the urethra into the bladder without difficulty. The bladder, with the prostate and a part of the membranous portion of the urethra, was removed from the body in a mass, and the prostatic enlargement was now well shown, and appeared mainly due to hypertrophy of the two lateral lobes.

A catheter was passed from the bladder into the urethra until it emerged externally, and then the incision already made along the anterior wall of the bladder was prolonged downward through the upper wall of the urethra, the catheter serving as a guide for the knife. This having been done, it was found that, although the prostatic portion of the urethra was laid open, yet the membranous portion remained uncut. It was also observed that the connective tissue lying anterior to the prostate gland and neck of the bladder was stained and infiltrated with blood, although there was no evidence of any urinary infiltration. The middle lobe of the prostate was enlarged in such a manner as to form a *cul-de-sac* just below the vesical orifice of the urethra. The kidneys were rather larger than usual, and

contained several cysts filled with a straw-colored fluid, which cysts were situated in the cortical substance and projected beyond the surface of the organ. The pelves of both kidneys were enlarged, but whatever fluid they may have contained, escaped unnoticed when the ureters were divided. The renal tissue appeared somewhat congested, but was otherwise normal, and subsequent microscopic examination showed no alteration of the Malpighian bodies or uriniferous tubules. The other abdominal viscera presented nothing abnormal.

The head and thorax were not examined.

(Signed)

EDWARD R. HUN,
J. R. BOULWARE,
FRANCIS BURDICK,
CHARLES H. PORTER.

It seems almost incredible that so many errors of judgment could be fallen into, so many mistakes in practice committed, as appear in this paper. It is unaccountable that a paper, so lacking in clearness, so abundant in mistiness, should profess to issue for the purpose of information. The case was, professionally, an interesting one, and Dr. March was personally a man held in high consideration. It is well known that, in this locality, great curiosity was felt to learn all the features of his illness, and it is no secret that, after his death, the animadversions respecting his treatment were censorious and severe. After waiting patiently more than three full months to ascertain the particulars and circumstances of the case, there appears this paper, in all important matters not less vague and equivocal than the responses of the Delphic oracle.

Considering well, however, what is unavoidably said, and fathoming carefully what is thereby inevitably implied, we ask, after studying this paper, what was the matter with Dr. March? Interrogate the symptoms, examine his medical history, investigate his condition, as narrated, and it must seem that an error could scarcely be made by a physician of ordinary intelligence. Here is an old man, subject to retention or incontinence of urine for more than ten years, so as to require a urinal for his *vade mecum*, suddenly seized, after exposure to cold and wet, with distress in the urinary organs and inability to evacuate his bladder naturally, and, being a surgeon, he tries to obtain relief by means of a catheter. He is unable to accomplish the introduction of the instrument, partly on account of pain, and partly because of the inconvenience of

manipulating on one's own person. The troublesome symptoms multiply, the tumor detected in the hypogastrium augments, pain and desire to pass water persistently increase, a sense of impaction in the rectum distresses him, and from time to time, with forcible effort, a little water is expelled—what explanation occurs to a mind medically trained? What other diagnosis than retention of urine can be suggested by such symptoms in a patient with such a history?

The first prompting and effort for help, manifested by the patient himself trying to introduce a catheter, proclaims that, while his mind was clear, he recognized the nature of his ailment, and the proper means of relief. Why did not his medical attendants also recognize it, and resort to the same means? They answer that they did, but “the parts were very tender,” and use of the catheter “was delayed at his request,” and also that “there seemed no urgent necessity for it!” Numerically the reasons abound. The first reason is simply puerile. Because a process is painful, is a physician to refrain from it, and leave his patient to struggle on, and die, even? The second reason has but little weight. It was natural and proper, unquestionably, to respect the wish of the patient, especially as he was a medical man, but here, as it always does, the responsibility rested with the professional attendants, and both duty to the patient and manliness on their part required them to assume the jurisdiction. The third reason, if valid, was sufficient, and to adduce the other reasons throws a doubt in the reader's mind upon their conviction of its validity. They tell us that, while they were procrastinating, “means were being resorted to, in the mean time, to allay irritation so as to facilitate the passage of an instrument, *if necessary*,” that is, if Dr. March should ever happen, in their estimation, to have *retention* of urine, they meant to do something! This, too, after we are told on the previous page that they had observed a tumor in the abdomen, which they regarded as a “*distended* and thickened bladder!” Just why they regarded it as “thickened” (before the autopsy) is not quite clear from any data produced. We accept the word *distended*, however, and ask what distended it but urine? How it happened to become so, we readily understand. “Retention of urine, dependent upon enlargement of the prostate gland, is liable to be pro-

duced by the slightest exposure to cold."—"Gross's Surgery," vol. ii., p. 741.)

The opinion of the medical attendants, if we may judge from the treatment, would, however, seem to have been that inflammation existed, and that upon allaying this by appropriate means the patient would be able naturally, or by art, to empty the distended viscus. They felt no urgency to heed the monition, *obsta principiis*, "for he was passing," they say, "daily from two to three quarts of apparently healthy urine," enough "to prevent, it was supposed, uræmic poisoning from its [urea] retention in the bladder." If inflammation existed, where was the evidence? Acute cystitis is a very uncommon disease, and generally terminates within a week. Its main symptoms are a feeling of weight and pain in the hypogastric region, augmented by movement and by pressure. Pain is also felt in the iliac and sacro-lumbar regions; great deal of febrile disturbance—not "moderate fever in the daytime!" urine voided drop by drop—not "an ounce or two at a time!" At the neck of the bladder there is a *scalding* sensation, when the urine is emitted *guttatim* by straining. The urine is of increased specific gravity—not 1005! high colored, and contains blood and pus—not the "color of pale sherry," not "apparently healthy" urine.—(See Da Costa "On Medical Diagnosis.") This, then, could not have been inflammation. The symptoms did not indicate it.

We must, then, return to the diagnosis—*retention of urine*, owing to enlargement of the prostate gland. Even then he was deemed safe by his attendants, for he was passing, they assert, more than the standard quantity of urine, and was emitting a small quantity every fifteen or twenty minutes. Still it was no criterion that retention, fatally-dangerous retention, did not exist, because he was passing water from time to time. An old Frenchman was brought to the Middlesex Hospital, supposed by his friends to have dropsy. Being interrogated, he said he formerly had some *stoppage*, but now "passed plenty of water." His bladder, however, was found *distended*, a catheter was introduced with some difficulty, and several quarts of urine drawn off! Too late, though; an error of diagnosis had been committed by his friends, a mistake in

treatment by his physicians, and he died.—(See “Watson’s Practice,” p. 744.) Said Dr. March, according to the paper under review, “I pass quite water enough, why give me unnecessary pain?” The pain was not inflicted, although he “was surrounded by sympathizing friends, tender nurses, and experienced and attentive medical advisers,” and, like the old Frenchman, he died too. The chief difference is, that one had his water drawn off before death, the other after; but, in both cases, too late to be of any other service than to establish a fact in diagnosis, and add one more regret to the list for what “might have been!”

Perhaps Dr. March was passing more than a normal quantity of water, yet we must not judge his case relatively to others, but to himself. He had been passing before his illness the enormous quantity, varying from three to six quarts! at least, as we are told, and now, while tormented by “excessive thirst,” and drinking a “large amount [quantity] of ice-water,” he had fallen off to between two to three quarts! What had become of the difference? The difference between two to three quarts and three to six quarts is one to three quarts! Was this difference (one to three quarts) accumulating in the distended bladder? If any considerable portion of it was collecting there, was not this an appalling consideration? Was this a time to delay and dally with sedatives and anodynes, to pour diluent fluids into a patient, who was telling as plainly as figures can speak, that he had in him already more fluid than the urinary organs could relieve him of? Was this an indication that a catheter should be used “chiefly” for the purpose of “exploration” in order to ascertain how long the urethra was, and how large and hard the prostate was? This was a novel use of the instrument, surely, but a most unwarrantable thing to do for such purpose “chiefly,” when the patient was supposed to be suffering from inflammation—declared by “his most troublesome symptom,” “pain about the neck of the bladder.”

Perhaps the difference, above noted, of one to three quarts, was supposed to be suppressed, as we see, under the head of *Remarks*, something said of “ischuria renalis!” and so the retention was still insignificant in the minds of Dr. Armsby and the others. Ischuria renalis, when, instead of the normal

quantity of about one quart per diem, a patient is secreting from two to three quarts of urine daily! Ischuria renalis, *suppression* of secretion by the kidneys; are the gentlemen serious?

Dismissing this, however, let us revert again to the figures. He was passing as we are told "an ounce or two of urine every fifteen or twenty minutes." This is sufficiently lax and indefinite. A difference of one hundred per cent. in measurement, and twenty-five per cent. in time, when a patient's safety, his life even, depends on accuracy of observation, is serious. But let us strike an average of quantity of urine voided and of intervals of its emission, and we shall find that *four* quarts was the quantity of urine necessarily evacuated in twenty-four hours. It follows then, either that he was not passing so much as "an ounce or two" at a time, or that he voided a good deal more than between two to three quarts a day. The dilemma is unfortunate, for it discovers a sad inappreciation of the vital importance of precision. The whole statement is palpably based on sheer conjecture, and it is evident that no actual measurement was observed, either as to the quantity passed from time to time, or the aggregate quantity in twenty-four hours. It seems much more probable that a *drachm* or two at a time, as rumored, would have been a closer guess than an ounce or two, since it is what is more likely to occur in cases of partial retention.

The diagnosis of retention of urine, owing to enlargement of the prostate gland, as a predisposing cause, and exposure to cold, as an exciting cause, being unmistakably established by the data furnished in the account of the case, let us examine the treatment.

"The treatment was such as is usually pursued in *such* cases," we are gravely told. It consisted of "warm baths, diluent drinks, anodyne injections, anodyne suppositories introduced into the rectum, etc." (whatever that may be). "Small doses of opium during the day" are also mentioned. By whom such treatment is "*usually* pursued in such cases" is not stated. Most assuredly it is not by the general profession. If it is usually done by the signers of the paper under consideration, no one will presume to contest their claim to *originality*,

at least. Diluent drinks, large quantities of ice-water, when a man is in *agony* because the organ, which is soon to be called on to receive these fluids, is already stretched to dreadful tension with excess of water! Anodynes, opiates solid and fluid, *per orem anumque!* Nature, with agonizing voice, is crying piteously for relief—what is to be done, afford the relief, or stifle the cry? *Stifle the cry!* says the logic of this *usual* treatment! It was done; and the “spirit *quietly* departed.” Had this been a crying child, it would not have been surprising, had a hireling, and not over-discerning nurse, administered a soothing anodyne, instead of affording nourishment to the hungry infant, to allay the craving of its stomach and hush its cry; but we hardly expected such treatment to be practised and defended by medical men.

It is very clear, from the account, that the patient was in danger of uræmic poisoning. His bladder was distended from pubes to umbilicus. However, he was passing urine “in sufficient quantity daily to prevent, it was supposed, uræmic poisoning from its *retention* in the *bladder*.” Yet he was already “occasionally delirious, and exhibited nervous symptoms;” “but these were attributed to the free use of anodynes.” The thoughtful reader is more likely to regard them as the escort of that procession of “uræmic symptoms” which “became more marked in the last two days.”

We read in this paper: “It is not probable that uræmia is often caused by mere retention of urine in the bladder, even when a very small quantity is voided in twenty-four hours.” Why, uræmia not only “not often” but *never* occurs directly from urine retained in the bladder! The mucous membrane lining the bladder is not an absorbing surface.¹ If the urine is absolutely retained, it may become putrid, and the urea, combining during the decomposition with two atoms of water, is converted into carbonate of ammonia, and renders the urine alkaline; but the urea, of which the blood has once been depurated by the kidneys and in solution, passed through the ureters into the bladder as a constituent of the urine, is not

¹ See article, “Can Medicinal Articles be absorbed by the Mucous Membrane of the Bladder?”—*Medical Times and Gazette*, April 10, 1869. Consult, also, on this point, an article in May (1869) number of this JOURNAL.

again taken into the circulation, to poison the blood by its presence. If the bladder be surcharged, the conduits from the kidneys, that is, the ureters, are necessarily overfilled, and the pelves of the kidneys charged to repletion with urine that cannot be transmitted. Of course, their functions must be seriously disturbed, and, if the impediment—that is, the urine in the bladder—be not removed, all action of the kidneys will be suspended, the effete azotized product called urea will not be eliminated from the blood, but will accumulate: disorder of the nervous centres occurs, "nervous symptoms," analogous to those produced by many narcotic poisons ("anodynes"), soon exhibit themselves, and, if the secretion is not restored, the patient dies comatose. The spirit *quietly* departs, in a stupor deep and painless enough, without need of "small doses of opium during the day," or "anodyne injections" and "anodyne suppositories," to increase and intensify that stupor.

Will it be urged, in vindication of the unaccountable method displayed in managing this case, that an attempt was made to evacuate the bladder, but it was found impossible to introduce a catheter? It is strange that the attempt was made at all, if it was not necessary to draw off the urine; if it was necessary, it is more than strange—it is wicked, if not criminal—that all further attempts were finally abandoned, and the patient left to his fate. Oh, but, we are told, "uræmic symptoms were not so urgent as to warrant puncturing the bladder." Indeed! Uræmia is not such a gentle, tractable affair, that it may be trusted or slighted until it becomes *urgent*. The patient is like a vessel drifting in a storm toward a lee-shore. Far away the sailor faintly discerns the scarcely-perceptible land, which a glimmer, through a rift in the clouds, shows for a moment. "Land on the lee-bow!" cries the lookout. The captain, in fancied security, has been "laying-to" his craft, with only sail enough to keep her steady, while the gale sends blast after blast howling among spars and shrouds. The billows sweep the decks from stem to quarter, and to attempt to carry sail in such a storm would seem madness to one not understanding the perils which that kindly beam of light had disclosed. Drifting passively must inevitably insure the de-

struction of all on the lee-shore. To spread sail may seem like a challenge to the mad elements, and may result in carrying away the masts, which already bend like whip-sticks before the tempest, or the vessel may be driven beneath the inexorable waters. Both alternatives are dangerous, but the skilful mariner speedily makes a choice. Quickly the necessary close-reefed sails are spread, and, keeping her course close to the wind, the imperilled ship reaches the broad, open main, safe from one danger, at least. The first symptoms of uræmia are as urgent as the first sight of a lee-shore, and demand as much decision and promptitude. If the catheter cannot be introduced, puncture of the bladder becomes an imperative necessity. The objection urged is that puncture through the rectum, or above the pubes, might jeopardize life by urinary infiltration. If these considerations obtained so weightily as to preponderate against interference in these regions, then interpubic puncture could have been made, against which the objection raised does not lie. But there was no more danger of urinary infiltration in this case than in any other case of retention. The argument made is not against the applicability of puncture in this case, but against the operation of puncture altogether. It either was or was not a proper thing to do. If the former, no timidity should have stood in the way of its performance; if the latter, then all talk about danger of urinary infiltration is irrelevant and trifling.

We are perfectly astounded at the self-stultification and the disregard of physiology and pathology exhibited by the remarks and queries in the last three sentences of this luminous paper. We read: "In the examination that was made of the urine, the proportion of urea contained in it was below the average;" but was that caused by the absorption of that constituent after it got into the bladder? Is it not more probable that it was *retained* in the blood by the diseased action of the kidney, as in ischuria renalis? Such, at all events, was the view taken by those in charge of this case, and made them disinclined to an operation (puncture) of such "doubtful utility." The fact in physiology, that the lining of the bladder is not an absorbing surface, has already been considered. Let us look for the stultification. Turning back three pages to Professor

Mosher's test of the urine, we find mention made of the low specific gravity, the absence of diabetic sugar, of albumen, of the slightly acid reaction, and of the fact that there was “urea in a *given* quantity less than the average, but, as he passed more urine than the average daily, the *whole* quantity of urea voided might be equal to the average” (and we may add, might exceed the average). Forgetting all this, in their precipitate zeal to vindicate themselves, Dr. Armsby and his associates in the case go on to assert that they did not resort to a trocar to puncture the bladder and relieve the patient from his distress and peril, because, according to their view, the *apparent* deficiency of urea, where no *actual* deficiency existed, was owing to the urea being *retained* (the italics are their own) as in ischuria renalis; that is, on one page we are told that in twenty-four hours a normal quantity of urea was secreted, and on the other we are told that the reason why no instrumental aid was attempted was, because in twenty-four hours a normal quantity of urea was not secreted. This is very much like the logic of the person who returned the cracked vessel to the lender, and defended himself by saying that it was cracked when he got it, that he never borrowed the vessel, and that it was whole when he returned it. Then, too, it is made to appear that the reason why the urine was not drawn off by art, was not owing to the difficulty in introducing a catheter, not to the fact that he was passing plenty of water and there was no need of it, not to the danger of urinary infiltration from puncture, but because of “diseased action of the kidney as in ischuria renalis.” So it seems it was disease of the kidneys, after all, that was under treatment, and *very bad* treatment, too, for that! It seems a little tardy, to be sure, to speak of it, and it is very singular that entire absence of evidence of renal trouble should have existed.

According to Professor Mosher's tests, the urine was perfectly healthy. A low specific gravity and excess of water existed, but where diluent drinks were freely given this was natural, and to be expected, unless there were “diseased action of the kidney, as in ischuria renalis.” It is an occasional individual peculiarity of certain persons to void an excessive

quantity of water, and some habitually pass very dilute urine.¹

Again, he was drinking diluents freely, and the observation is made by Bischoff that the ingestion of a large quantity of water diminishes the excretion of urea. Then, too, the patient was an old man, and interstitial changes were lessened in activity, and in a corresponding degree the elimination of urea was less rapid.² Therefore, it were no evidence that this patient had disease of the kidneys, even if it were shown that the quantity of urea was absolutely instead of relatively diminished.

We come now to the report of the autopsy prepared by Dr. Hun. He speaks of the kidneys as presenting a healthy appearance on inspection, with exception of being somewhat congested and having on the surface several cysts projecting from the cortical substance. The existence of cysts on the surface of the kidneys is unimportant in this connection, for they are not supposed to exert any influence to pervert the action of the organ. The paper says "the kidneys exhibited evidence of disease and former inflammation;" but what evidence and what kind of disease, is left in the mist and unstated—except that adhesions and cysts are mentioned. It would satisfy scientific curiosity to know to what the kidneys could be *adherent* except to the fat in which they were embedded. (Dr. March weighed over one hundred and ninety pounds.) Dr. Hun says that the pelves of both kidneys were distended, as is usual in cases of retention. The Malpighian bodies and uriniferous tubules he declares to have been found healthy on subsequent examination with the microscope. The other statement is that "in the tubular part there was *some evidence* of disease," but, with the same indefiniteness that characterizes all essential parts of this remarkable paper, no information is vouchsafed as to the nature of the evidence, or of the disease. This is hardly what we should expect in a printed paper claiming the attention and respect of scientific men. However, the fact that the kidneys secreted abundantly, and that no morbid product whatever existed in the urine, is conclusive that any pathological

¹ BEALE, "On Urinary Diseases," p. 80.

² Analyses, by LECANU, *Journal de Pharmacie*, tome xxv.

change discovered in the kidneys must have been exceedingly trivial, and had nothing whatever to do with the death of the patient.

"The bladder was found enlarged and much changed in its structure," is the loose generality of one statement. Dr. Hun says that it contained more than a quart of turbid urine; the precise quantity over, he informs the writer, was not measured. The internal surface presented the usual appearance found when obstruction has long prevented the free flow of urine. As the bladder has been preserved, it may be examined, it is presumed, by any one curious to see it, although changed by the preservative fluid. The observer will find the middle coat, perhaps, slightly thickened, and the muscular fibres as distinct as the fleshy columns of the heart. The prostate gland, as both Dr. Hun and Dr. Armsby state, is largely hypertrophied, measuring fully twice the normal diameter in every direction. The middle lobe, isthmus, or transverse process, as it is variously termed, does not appear to be developed like the lateral lobes, however, but it is carried upward, and put on stretch, as a thick membrane by the enlargement of the lateral lobes. Query: Was this the obstacle to the introduction of the catheter encountered by the medical attendants?

At the autopsy a catheter was introduced into the bladder by the gentleman who performed the *sectio cadaveris*. He used an ordinary catheter, which he found of sufficient length to penetrate the bladder; as he stated to the reviewer. He said that, upon well depressing the handle of the instrument, its beak passed over the obstacle and entered the cavity of the viscus. In his paper, Dr. Armsby says: "The instrument passed readily the whole length of an ordinary catheter, until it met a firm, resisting body and seemed to fall into a *cul-de-sac*, in which its point was fixed. It was repeatedly withdrawn, and its point carried along the anterior wall of the prostatic urethra, but the handle of the catheter could not be depressed," etc. Now, the *cul-de-sac* is on the *posterior* wall of the urethra, and not the anterior at all, so that it is impossible that this was the *cul-de-sac* in which its point engaged. Where, then, was it? Dr. Hun tells us, in his report. In removal of

the bladder, the prostate gland and a part of the membranous urethra were also removed. After removal of the bladder, which had been laid open by anterior section, a catheter was passed from the anterior of the organ into the urethra, until it emerged externally, and the incision in the anterior wall of the bladder was prolonged downward on the catheter as a director through the upper wall of the urethra. It was then found that, although the prostatic portion of the urethra was laid open, yet the membranous portion beyond the point of the catheter remained uncut. This appearance is well shown in the photographs *first* taken. It was also observed that the connective tissue, lying anterior to the prostate gland and neck of the bladder, was stained and infiltrated with blood. Here, then, was the *cul-de-sac*! Here was where "the blood coagulated in the catheter" was drawn! This extravasated blood was not a *post-mortem* stain. It was not on a cut surface, but *infiltrated* into the connective tissue. How does this strike the professional reader? There is but one explanation. A false passage had been made during life by thrusting the point of the catheter through the anterior wall of the membranous urethra. The point had perhaps found a "*cul-de-sac*" somewhere after passing under the pubic arch, the full length of an ordinary catheter, but where the reviewer will not venture to guess, for there has been already too much guessing exhibited in this case. Dr. Hun informs us of the particulars of this *post-mortem* catheterization. This paper does not allude to it. Far be it from the reviewer to question the veracity of any one; but it is miraculous that a catheter which was long enough to traverse the urethra and enter the bladder of Dr. March *after* death, was not long enough to do this, as the learned professor and counsel say, *before* death. Perhaps this notable silence as to the *post-mortem* use of the catheter was not observed for concealment; the fact may have been forgotten, or regarded as insignificant—perhaps so! Let us examine still further into facts before pronouncing a verdict.

On the 18th of June, the day after the decease of the patient, a stereograph of the interior of the bladder and prostate gland was taken by Haines, of Albany. After this, the specimen was kept in some antiseptic fluid until the 25th of

July. It was then taken to the same artist, and another *negative* was photographed. Dr. Armsby desired possession of the first negative, but was unable to purchase it from the artist. He then requested that no copies, or prints, from the original negative should be sold, but copies from the second negative only. The first photograph shows the real appearance of the bladder when fresh; the second exhibits very well the effect of Goadby's solution, or other antiseptic, in *altering* its appearance, especially when supplemented by the tactile ingenuity of dexterous manipulators. Had not the writer seen "a whistle made of a pig's tail," he would hardly have supposed the bladder from which the first pictures were photographed to be so plastic and tractile that the second, by any cunning, could claim to represent it. The two plates which are reliable are numbered 37, 38; the other two, 37*, 38*. The *ill-starred* photographs represent behind the vesical triangle (*trigone vesicale*) "a deep circular depression or sac." This is, simply, the pouch, called the *lower fundus*, or *bas fond* of the bladder (the well-known receptacle of urinary calculi), which, by means of hooks and pins and guys, is tortured into something quite "deep" and abnormal in appearance. The muscles of the ureters (a structure "very distinctly developed in the hypertrophied condition that usually attends diseases of the bladder"—see "Morton's Anatomy," p. 340) are moulded until they are transformed into what is called a "bar-like ridge." In front of this is the third lobe of the prostate, in the original photographs represented as a rather thick membrane stretched across the neck of the bladder; in the photographs, inspired by an after-thought, it is tricked into "a firm, elevated" transverse ridge, "*half* an inch in thickness!" (See backs of photographs.) Reference is made on the backs of the photographs to Gross; but, in his "Pathological Anatomy," he speaks of transverse ridges of "mucous membrane" sometimes "three or four lines in thickness," and not of fabrications, "half an inch in thickness and an inch in depth." By the photographs, the walls of the bladder are also made to look thicker. The ingenuity of the writer is severely taxed to explain this transaction with the photographs so as to save the professor from humiliation; and, not feeling

himself competent to do so, he leaves the facts to speak for themselves.

Under the head of "*Remarks*," it is said: "It was reported that he" (Dr. March) "had malignant tumor or cancer in the bowels, and could not recover. The only foundation for such a report was that some gentlemen, of high character and experience, were inclined to believe that the tumor, which was distinctly felt, was not simply a diseased and enlarged bladder, but had connected with it, and external to it, another growth, probably of a malignant character. This opinion was not shared by the attending physicians. Nothing in the *post mortem* was found to confirm its correctness." This statement has been severely censured as disingenuous, and as inspired neither by a nice sense of honor, nor of justice in the author. The real truth is that, on or about the 9th day of June, Dr. March felt himself to be in extreme danger, and wished to see, perhaps for the last time, and talk with some of his medical friends and colleagues. Drs. Thomas Hun, J. V. P. Quackenbush, S. O. Vanderpoel, and J. S. Mosher, visited him. Before they saw him, Dr. Armsby stated that a catheter had been passed twice, but that the bladder contained no urine. Dr. Hun remarked that the tumor, which was said to have developed so rapidly, must then be cancerous. When come into the presence of the sufferer, at his request, Dr. Hun placed his hand on "the tumor." He saw no reason to alter his opinion, previously formed, for, like all present, he believed the bladder to be empty, as Dr. Armsby had stated. These gentlemen visited Dr. March, at his request, only as friends, and in no sense as physicians. They assumed no responsibility in the case, and it is most unfair and unworthy conduct to fling an insinuation against their perspicacity and discernment for a mere conjecture, based on incorrect information and insufficient data. One of these gentlemen states to the writer that Dr. Armsby adopted the opinion that "the tumor" was a malignant growth, and acknowledged so to him a day or two before the patient's death. A prominent surgeon from another town, who was by chance with Dr. March at his dissolution, assures the writer that, at breakfast, Dr. Armsby spoke of the case as one of cancerous disease. Far be it from the writer to

accuse Dr. Armsby of falsehood when he, as one of the signers of the paper, says, “this opinion was not shared by the attending physicians!” But these discrepancies belong to the history of this remarkable case, and, having accepted the challenge to criticise, which publication always implies, the writer cannot well repress them, and treat the subject according to its deserts.

Had the opinion, casually expressed by one of the friends of Dr. March, as stated above, been formed after deliberate examination, it would not have been so unexampled as to justify the pettiness of allusion to it in order to slur it, for, in the *Bibliothèque Médicale*, it is reported that two leaders of science in France mistook distention of the bladder for malignant disease. Curiously enough, too, this diagnosis is the only one that would seem to vindicate the treatment pursued in this case, since, if the diagnosis was “distended and thickened bladder,” the medical attendants followed a course which was not merely erroneous, but abominable.

This paper has been termed remarkable, and, with the light now let in upon it, there would seem to be but one judgment of it possible. To allow it to pass unchallenged and uncontradicted seemed wrong to the writer, and to savor of concession and concurrence. Both from its own internal evidence, and from evidence elsewhere obtained, it appeared to be little better than a scientific fraud. Its fabrication is artful, specious, and sophistical, and, as a contribution to history, it appeared questionable, for it purports to contain facts that are differently stated by other and truthful men, both prior and subsequent to its appearance, and, in important matters, it suppresses facts altogether. If the examiner is wrong, the good metal will be all the brighter for its rubbing; if right, the counterfeit ought to be nailed to the counter. Two of the signers of this paper are Professors in the Albany Medical College—one is now in the great vacancy left by Alden March—and every student has been provided with a copy of the document. The position of a professor has been degraded by this attempt to give consideration and authority to such fallacious theories and detestable methods. Had the paper originated with a beginner in practice, its essence and its manner should

have caused regret, perhaps derision, but it would, doubtless, not have received the equivocal compliment of formal reprehension; but of teachers we demand teachings characterized by proficiency, clearness, and honesty of purpose. These young men, the medical students, read that this most singular treatment is "*usual in such cases!*" Instead of acknowledging the terrible mistake with manliness and humility, whose discovery, at the *post-mortem* investigation, caused a shudder of mortification and grief in the breasts of lookers-on, an attempt is made to justify it, and the scorn of the profession is provoked by crafty efforts to confuse and obscure the sad affair amid irrelevancies, obliquities, *non-sequiturs*, and artful perversions. The intelligence, sagacity, and skill of the whole profession are impugned by calling this treatment "*usual*," in order to seek protection in the subterfuge from the condemnation which the paper shows is already keenly felt.

"Usual in such cases!" Never! It is negative and inefficient for good, positive and potent for harm. An ailment, simple and tractable at first, if properly managed, is, through inaptness, unskilfulness, or timidity, allowed to become uncontrollable. *This* "usual" treatment? Is this the teaching in the Albany Medical College? Are the young men there instructed to leave a bladder distended with urine to the impotent efforts of unaided Nature, and to treat uræmic poisoning with opium? Does Dr. Armsby, who has now obtained Dr. March's place, so teach? Fortunately, there are professors there who scout such practice. Everywhere the profession is heard repelling and repudiating the allegation that this "is usual treatment in such cases," and from the grave of the old surgeon who has fallen arises a solemn warning against its repetition.

ART. III.—*Treatment of Contusions of the Perinæum, attended with Laceration of the Urethra.* By STEPHEN ROGERS, M. D., New York.

As an introduction to our remarks upon this subject, we present the following history:

A healthy lumberman received a violent blow on the perinæum, 15th of December, 1868. He felt considerable pain at the bruised point, from almost the moment of the reception of the blow, which was soon followed by a desire to urinate, which, on account of the inability to void the urine, soon became very urgent. A tumor, described as of the size of a hen's egg, very soon appeared at the injured portion of the perinæum, and gradually increased in size, till it became so large as to constitute an enormous swelling of the perinæum, scrotum, and upper and inner portions of the thighs. During the first few hours, the unsuccessful efforts at micturition had been attended by a slight sanguineous discharge from the meatus, but no escape of urine, and the bladder was regarded as so much distended as to necessitate the use of the trocar through the rectum. The patient states that but a very small amount of urine escaped as the result of this rectal puncture of the bladder. It soon became necessary, in the opinions of the medical men in attendance, to incise the perinæum, and it was accordingly done in several places, giving escape to a large amount of fluid, more or less purely blood, as the patient states. From the first, all efforts to pass the catheter had been unsuccessful, and were desisted from soon after, or at the time, that escape for the extravasated urine was provided, by the incisions into the perinæum. This operation was followed by a more or less rapid subsidence of the urgent symptoms, the œdema of the parts slowly disappeared, the general health was in a measure reëstablished, leaving a traumatic stricture, some sinuses, and a urinary fistula in the perinæum.

There were several efforts made, according to the patient's statements, to close the perineal fistula, by the use of nitrate of silver applied to the track, but they were unsuccessful. At the end of about three months from the time of the injury, the patient came into my hands presenting the following symptoms: General health not remarkable, a stricture at the termination of the bulbous portion of the urethra, or commencement of the membranous portion, so tight that a No. 4 sound passed snugly; there was a urinary fistula in the perinæum, opening some five-eighths of an inch to the left of the middle line, communicating not only with the urethra, but with sinuses reaching far beyond the urethra to the right side of the perinæum; there was much irritability of the bladder, and a feeling of pain, or at least discomfort, following each act of micturition, attributed to the distending force of the urine upon that portion of the urethra posterior to the stricture. There was also a delicacy to the touch of the whole perinæum and prostatic region. The urine passed in about equal quantities by the fistula and by the natural canal. A probe, passed in through the fistula, went directly down in contact with the sound, and passed through the stricture. The freedom of movement of the point of the curved probe conveyed the information that there was considerable dilatation of the passage posterior to the stricture. It was thought that systematic dilatation by the use of the sound would in time cure the stricture, and as a consequence the fistula also; but, to expedite recovery, a division of the stric-

ture externally, by an incision through the fistulous track anteriorly, so as to include the stricture, was concluded upon. This operation was performed on the 23d of March, 1869, and, after the division of the stricture on a No. 4 sound, a No. 12 catheter was easily passed into the bladder, and the perineal wound closed over it by silver-wire sutures. By the presence of this silver catheter a few hours after the operation, and its frequent use to evacuate the bladder subsequently, it was hoped that the stricture would be overcome and the fistula promptly cured, but this hope was not realized, for, at the end of three weeks from the operation, though a No. 12 passed without difficulty, the stream of urine was comparatively small, and the fistula still remained. In order to set the restorative action at work anew, I at this time transfixed the fistulous track close down to the urethra, by a double iron wire, carried, by means of a heavy curved needle, from one side of the perinaeum to the other, and, twisting the two opposite extremities over a quill or piece of wood, approximated the walls of the fistulous canal. This procedure excited much inflammation of the parts, and, while it resulted in the obliteration of a still remaining urinary sinus, did not close the fistulous canal. Three weeks after this operation, the stricture admitted the No. 12 easily, the stream of urine was still very much smaller than the instrument passed led to expect it would be, and the fistulous opening in the perinaeum still remained, though smaller than when the treatment commenced. At this time, a discovery was made, which, though useful, was at unnecessary expense of suffering to the patient. It occurred in the manner I will now relate. Thinking that some escharotic application to the fistula might succeed in closing its canal, I took a few drops of the *antimon. terchlorid. liquor. U. S. P.*, in a hypodermic syringe, and, after introducing the No. 12 sound well past the fistulous opening in the urethra, passed the syringe needle down through the fistula till it touched the sound, then withdrawing it some third of an inch, little more or less, discharged its contents into the fistulous track, as was supposed. None of the fluid, however, followed the syringe when it was withdrawn, a fact not explained till the sound was removed from the urethra, when it was discovered that all that portion of the sound beyond the locality of the stricture was discolored by the antimonial liquor, clearly demonstrating that the liquor had escaped from the fistulous track inward into an ample cavity, probably much larger than a No. 12 instrument. The result was, a severe urethritis, as well as inflammation of the fistulous track, which at one time promised to close up the fistula altogether, but finally failed. Much less violent chemical agents may, no doubt, be advantageously employed in this manner, to enable us to ascertain if there be much urethral dilatation with urinary fistula. It was now determined to adopt an entirely new management, for it was manifest that, though the patient could pass a No. 12 sound with the greatest ease, the urethra was still dilated behind the seat of the stricture, and, on account of the small size of the stream, as compared with the sound, even when the fistulous track was pinched together so as not to allow any urine to escape through

it, there was clearly still some uncontrolled obstruction to the free escape of the urine by the natural way. On the 15th of May, nearly two months after the first incision we have described, the following operation was performed: The patient, having passed a No. 8 elastic catheter into the bladder and allowed the urine to escape, was put under the influence of anesthetics, without removing the elastic instrument, it serving as a guide. A long and deep incision in the middle line was carried down into the urethra, anterior to the stricture, and then, on a director carried well back into the perinæum, thus dividing not only the cicatricial tissue marking the seat of the stricture, but the urethra anterior and posterior to it, creating a urethral wound of about one and a half inches in length. A probe passed into the perineal fistulous track, at this stage of the operation, showed that its urethral opening had been cut into by the central incision. This track was laid open into the main incision, and the whole very large perineal wound left open to close slowly by granulation. It was hoped that, by thus freely opening the urethra as well as the stricture, and allowing it to remain open, the dilated portion would more certainly return to its normal size, and thus overcome the obstinate tendency, thus far manifest, to the formation of fistulous openings, while at the same time the regular use of the sound during the process of granulation was expected to secure the formation of a capacious urethral canal at the injured point. Granulation and closing of the wound progressed quite as rapidly as desired, but the urine nearly all passed in a free and direct stream from the wound, for about two weeks after the operation, except when it was closed during micturition by pinching it together by the thumb and finger. Careful watching of the remaining fistulous opening, from day to day, soon convinced me that, though the urethral passage was shown to be very large, by the size of the stream of urine which passed through it, when the current was turned that way by the process of forcibly closing the fistulous track which I have just described, still the very direct course of the urine from the bladder to and through the perineal opening created a tendency to the escape of urine by that opening that would not correct itself; that indeed the process of closure had already been arrested, and the establishment of a permanent perineal fistula had become a far-advanced fact. During the third week after the operation, this state of things presenting, I applied strong nitric acid to the track of the perineal opening twice, and directed the patient to practise the pinching together of this opening at the time of micturition, so as to prevent the escape of urine by that route. At the end of the week, however, the perineal opening was so free as to permit the escape of a full stream. I then ascertained, by means of an ear-speculum passed down through the fistulous track, till it struck a sound introduced into the urethra, that the urethral opening was still, though linear, considerably longer than the meatus, and that the tissues about it were soft and very yielding to pressure; whereas the cicatricial tissues near the surface of the perinæum were firm, and yielded only to much pressure.

It was therefore clear that little headway toward the permanent closure of the fistulous opening could be made, without inducing an induration and consolidation of that portion of the track near the urethra. To effect this, I applied, through the ear-speculum, the red-hot iron to the deep half of the fistulous track, thrusting it down till it touched the sound in the urethra. The resulting slough soon separated, and at the end of a week the contraction and induration of the deep portion of the fistulous track were very marked. At this time the second application of the actual cautery was made in the same manner, the slough coming away in about three days, permitting at that time a small stream of urine to escape through the fistula; but, within three days after, all escape of urine by the perineal opening ceased, and the fistula closed, with a urethra of more than normal size, as the patient stated. He could pass a No. 14 or 15 sound with no difficulty; the bladder was to all appearances healthy; in short, the case was at last cured.

Nearly five months after this patient returned to his home, in a distant part of this State, he writes me that his health is excellent; that there is a slight "soreness" of the perinæum, developed by firm pressure, as when sitting down hurriedly and heavily, and that he is in the practice of passing the sound (a No. 14) twice a week, which he does without meeting any obstruction, and without any apparent necessity, except to obey instructions.

Remarks.—The case we have above recorded must, we think, be regarded as one whose treatment was attended with difficulties well calculated to tax the patience of both the surgeon and sufferer, and the ingenuity of the former, and a case presenting points of important practical interest. In our judgment, we should regard the treatment of this kind of wounds of the urethra, during the first twelve hours after the injury, as the most delicate and fruitful of good or evil of all the course of treatment the accident demands. We conceive that, by a proper management of the case at this early period, a vast amount of suffering and even danger to life on the part of the patient, and labor on the part of the surgeon, may be avoided. The symptoms which indicate treatment do not, it appears to us, guide us so fully to the course to be pursued, as does the history of these cases. To illustrate: a desire to urinate is a very constant symptom after wounds of the urethra in the perinæum, and this without any dependence upon the distention of the bladder. This desire, often accompanied by Paralysis or partial paralysis of the bladder, provokes the early

and persistent and often violent attempt to use the catheter, and to the production of much harm. But tenesmus vesicae is a mere symptom of serious injury of the urethra, especially the membranous portion of it. Hence, unless this fact be known, it may misguide the treatment.

The paralysis of the bladder attending this injury is alluded to by Charles Bell as follows: "It is the injury which the wound inflicts, and the consequent disorder and loss of consent among the muscles of the perinæum and neck of the bladder, which prevent the discharge of urine."¹

A characteristic and most instructive case, illustrating this desire to micturate after perineal wounds of the urethra, even though the bladder be empty, is recorded in the London *Lancet* for November 18, 1843, from the *Medicinische Jahrbucher* for August of the same year, by Sorinser, of Vienna. It is in effect as follows: "A boy, ten years old, received a wound in the perinæum from a pointed stake. The surgeon who was first called to see him, induced by the constant and tormenting desire to pass urine, made several fruitless attempts to pass the catheter into the bladder. Two hours after the receipt of the injury, Sorinser saw the patient, found him in bed with his body bent forward, his thighs drawn firmly up to the belly, and the desire to pass urine still constant and tormenting. The doctor, however, ascertained, by examination per anum, that the bladder was not distended, though the region over the bladder could not be pressed in the lightest manner without exciting outcries of pain from the patient. The scrotum and surrounding integument were swollen to more than twice their ordinary size, were tense, of a doughy feel, and transparent aspect. In the perinæum was a small, ragged-edged wound, whose orifice stretched upward and backward, and from which the urine distilled drop by drop continually. All attempts to pass the smallest catheter into the bladder through the urethra were futile. The wound, however, was cleared of coagula, and a sound placed in it (for what purpose it was introduced, or whether it was introduced into the bladder through the wound, we are not informed), but the perpetual desire, and the patient's efforts, to pass water continued, re-

¹ Bell on "Diseases of the Urethra," 1820, p. 305.

sulting in the passage of most of it by the wound, and the remainder by the meatus."

It may be added that this patient suffered extensive sloughing of the tissues infiltrated by the urine, but finally recovered.

It may be set down, then, as a rule, that the mere desire to pass urine after wounds of the perineal portion of the urethra is not to be regarded as an indication for the use of the catheter.

There are two other early phenomena attending wounds involving the perineal section of the urethra, viz., a more or less rapid swelling externally, whether the integument be lacerated or not, and hæmorrhage from the meatus. This swelling is at first produced by the escape of blood and serum into the tissues immediately surrounding the lacerated vessels, and, while it is common in all contusions, is of especial importance in this locality, because, by involving the injured urethra, it either displaces the torn extremities of the injured canal, or distorts or presses upon them in such a manner as to prevent either the passage of the catheter or the urine. The following case, recorded by Bell, will clearly illustrate this point: "A young man fell astride the balustrade of a staircase, wounding the perinæum. He was not able to pass a drop of urine after the fall. Bell found a swelling around the bulb and the crura penis at the first examination of the patient soon after the injury. He enjoined the dresser not to attempt to use the catheter, but to leech the tumor, place the patient in a warm bath, and give him laxatives. On the following day (how many hours is not stated) the bladder being distended, he attempted to introduce the catheter, but failed. He then opened the swelling in the perinæum, and let loose a quantity of blood, after which the catheter passed into the bladder." The history of this case does not allude to the escape of blood from the urethra, but from the context it is very probable that it did so escape, rendering his subsequent remarks upon the case very just. The remarks are as follows: "It was, perhaps, fortunate that the urine did not flow until it was drawn off by the catheter; for, if it had, it would have

passed through the ruptured urethra, and among the extravasated blood.”¹

This, unfortunately, was not the case with the patient whose history we record.

The condition of the parts in Bell's case, however, should not be supposed the usual one condition requiring incision of the perinæum after wounds of the urethra; it is, on the contrary, comparatively infrequent that blood alone is liberated, the usual object of the incision being the liberation of extravasated urine, and the promotion of the free escape of that fluid from the ruptured urethra. While there can be no hesitation as to the propriety of freely incising a perineal tumor infiltrated with urine, there may be some question as to that practice upon the tumor before there is any evidence of the presence of urine. Bell, the earliest author upon this question which I have at hand, says: “There may be some doubt, but, surely, when there is a tumor of blood in the perinæum, at the same time that blood is flowing from the extremity of the urethra, and therefore reason to suppose that there is a breach of the urethra, we have a very sufficient reason for opening the tumor; for, if the urine should escape from the urethra, and find no ready exit by the wound, it would produce serious consequences.”²

Sir Benjamin Brodie, some twenty years later, writes upon this matter as follows: “In cases of contusion of the perinæum, when the effusion of blood in the perinæum and scrotum, and more especially the discharge of blood from the urethra, or any other circumstances, lead to the suspicion that the urethra has been lacerated, the simple fact that there is extravasation of blood does not in itself justify the making of an incision in the perinæum. But, where such extravasation exists, there is always reason to apprehend that there may be further mischief, and the progress of the case, therefore, should be carefully watched, and, on the first appearance of any symptoms which might be supposed to indicate that urine had escaped into the cellular membrane, a free incision should be made from the perinæum into it.”³

¹ *Op. cit.*, p. 304.

² *Op. cit.*, pp. 305, 306.

³ Lectures on the Urinary Organs, p. 83. *Medico-Chirurgical Review*, vol. xxxvii., 1842, p. 448.

Mr. Holt, a still later author, though, as is well known, writing for the purpose of advocating a particular treatment of stricture, alludes to this subject of wounds of the perinæum, and to their treatment, as follows: "First, as regards the treatment of cases of injury to the perinæum, an instrument"—we presume a catheter is meant—"should, if possible, be passed at once, and before any attempt at micturition is made, so as to avoid extravasation into the perinæum; but, if this be impossible, the surgeon is bound to incise the perinæum upon a catheter or staff, introduced as far as possible," etc.

While this author regarded the incision as important to prevent the formation of urinary abscess and infiltration, he advocated the incision as most valuable as a means of introducing a catheter into the bladder, which, in his opinion, should be retained till the wound in the urethra healed. We need hardly mention the probable fact that few surgeons, at this time, subscribe to this doctrine of Mr. Holt. This subject of retaining the catheter in the urethra during the process of healing, after either accidental injury or operation, fell much into discredit even in Bell's time and practice, as one may see by consulting his book we have quoted (see p. 304). Brodie, however, seems to have gone over the same ground that Bell did, and arrived at the same conclusion. As the sentiments of this great surgeon are always interesting to the profession, and as this particular subject has received much attention from our distinguished townsmen, Dr. Van Buren and Dr. Gouley, I will venture to quote him in full. In speaking of perineal fistulæ, Sir Benjamin says: "I formerly have advised the patient never to void his urine without the aid of the catheter, but I am now inclined to believe that the irritation thus kept up tends to delay rather than to expedite the cure. At other times I have kept the patient in bed for some weeks, with an elastic gum catheter constantly in the urethra and bladder; but I cannot say that, with my present experience, I have any faith in it. After a few days the urine generally begins to flow by the side of the catheter, which does not therefore answer the purpose for which it was introduced, of preventing its escape by the sinus. Then, in many cases, the catheter causes an abundant suppuration of the urethra; and the puru-

lent discharge, finding its way into the sinus, prevents it from closing as much as it would be prevented by the contact of the urine.”¹

The remarks of these authors relative to the futility of attempting to prevent the escape of urine through an opening of the urethra, by the periodic use of the catheter, or by its constant presence in the bladder, have been ably confirmed within the last few years by Drs. Van Buren and Gouley of this city (vide *Record*, vol. i., and *NEW YORK MEDICAL JOURNAL* for August, 1869). My own experience also certainly accords with these authors in this matter. From the days of Bell, it seems to us that well-conducted observation has, down to our own time, shown very uniformly that wounds in the urethra, whether made by the surgeon or by accident in any other manner, heal much faster without the presence of the catheter; that, indeed, they not infrequently entirely refuse to heal till the catheter is removed. We therefore do not hesitate to say that the more or less constant presence of the catheter, passed through the lacerated urethra into the bladder, so generally recommended by authors as a measure in the treatment of laceration of the urethra, is not only generally impracticable, but always hurtful, and opposed to the very best recorded observations. These remarks and allusions to authority prepare the way for what we are going to say as to the proper treatment of contusions of the perinæum with laceration of the urethra.

The signs of laceration of the urethra from a blow in the perinæum are, first, hæmorrhage from the meatus; second, an almost invariable desire to micturate, whatever the condition of the bladder; third, retention of urine, either from paralysis of the bladder, or obstruction of the urethra, or partly from both; fourth, a general impossibility of passing the catheter or bougie, on account of the same obstruction. Although many previous authors urge the passage of the catheter, both to relieve the supposed distention of the bladder and urinary infiltration, Sir Henry Thompson says that “instruments can rarely be used to relieve it, however dexterous the manipulation, without adding to the mischief.”²

¹ Lectures on “Diseases of the Urinary Organs.”

² Thompson on Strictures, p. 128.

It is not difficult to comprehend why a sound should not pass the point of laceration of a urethra except by accident. The urethra, being always closed, its opposing walls in contact with each other, is only opened by some solid or fluid substance forced through between the collapsed walls. If at any point these walls be lacerated, the dilating force, be it solid or liquid, loses its power over all that portion of the tube comprised by the laceration, if it be transverse or oblique; so that, while the canal would be dilated down to the laceration, it would remain collapsed beyond. Theoretically this is true, and unfortunately it is generally practically true also. The passage of a sound or catheter may, therefore, be regarded as impossible in cases of transverse lacerations of the urethra in the perinæum. But, as longitudinal lacerations may be possible, which, for obvious reasons, do not oppose the same obstacle to the passage of the sound that transverse lacerations do, it follows that all lacerations of the urethra are not impassable. As the permeability of the urethra by the sound is a more or less accurate index of its permeability by the urine from the bladder, it must be accepted as the proper practice, to determine, at the earliest moment after the injury, whether the sound can be readily, or with any moderate effort, passed into the bladder. If it so pass, there is a bare hope, notwithstanding there may have been hæmorrhage from the meatus, and evidences of extravasation of blood into the tissues of the perinæum, that the urine will also pass without untoward results at the point of injury, and therefore no further surgical measures need, for the time, be taken; but, in the language of Brodie, which we have already quoted, "the progress of the case should be carefully watched for the first appearance of any symptoms which indicate the escape of urine into the tissues of the perinæum.

When such symptoms occur in such a case, as well as in those cases which resist all reasonable and mild efforts to pass the sound, which are almost certain to be followed by these same symptoms, there is but one proper course to pursue, and that is, *to freely incise the contused perinæum in the middle line down to the lacerated urethra*, thus giving unobstructed passage to all the urine which may escape from that canal. This incision should be done upon a large-sized sound or me-

tallie catheter, introduced down to or beyond the point of laceration, and should be done at once. We thus meet one of the most important indications for the treatment of these injuries, viz., the prevention of urinary infiltration of the areolar tissues of the perinæum, scrotum, and penis, and the consequent destruction of these tissues, and danger to life. But if, at the same time, there be paralysis of the bladder with distention, or distention of this viscus from urethral obstruction, the open canal behind the point of laceration must be found, and the catheter passed into the bladder. If this cannot be done by the aid of the finger or the director at the perineal incision, nor directly through the incision, the urethra must be sought for at a point farther back. This may be most safely and accurately effected by extending the incision deeply down to a little in front of the anus, and then observing the following directions, which Mr. John Simon, of London, used to give in his lectures upon stricture, viz.: "Pass the right forefinger into the anus; ascertain the position of the prostate; bring the finger forward till it discovers the anterior extremity or apex of the gland; let it just pass this spot, and rest, pressing the urethra, with its point immediately in front of the gland. Now pass the left forefinger into the wound; advance it till it falls against the apex of the prostate, guided by the finger in the rectum; there you so arrange it that the middle phalanx presses back the rectum; the last phalanx lies along the prostate, with the tip of the finger indicating the spot at which the urethra emerges from that gland. With this finger thus resting against the urethra as a guide, the canal is readily penetrated with the bistoury, immediately in front of it, and an elastic or other catheter passed through the opening into the bladder."¹ It seems proper to remark that, while Mr. Simon advocated this operation for the relief of vesical distention in stricture, and for rupture of the urethra behind a stricture, resulting in the extravasation of urine into the tissues of the perinæum, his arguments in its favor are quite as applicable to such cases as we have under consideration, and they are briefly as follows, viz.: "The point of the urethra selected for it is definitive in its relations and position, and much less

¹ American Journal of Medical Sciences, July, 1852, p. 248.

altered in these respects by tumefaction and disease than is commonly stated. It is readily reached from the surface of the perinæum. No important parts intervene. The subsequent escape of urine is direct. And, finally, it is surely both a milder and a simpler proceeding than if, after cutting deeply into the perinæum for pus or extravasated urine, one were to start *de novo* with a trocar, to tap the bladder by the rectum or above the pubes." With the light which has been thrown upon the surgical character of incised wounds into this portion of the urethra, during the last fifteen years, the thorough soundness of this argument needs no defence; while, on the contrary, the temporary and dangerous expedient of puncturing the bladder, either from the rectum or above the pubes, can but extremely rarely find any excuse. There was certainly no reason for it in the case we have recorded. The use of the catheter through this perineal opening will be guided entirely by the condition of the bladder as to the recovery of its functions and the freedom of the escape of the urine. The immediate danger from the extravasation of urine into the areolar tissue of the perinæum having been removed by the formation of this free outlet, and the acute inflammation resulting from the laceration having subsided, efforts at the restoration of the normal canal may be carefully instituted. As to what these efforts should consist of, we will simply refer the reader to the two excellent papers of Dr. Van Buren and Dr. Gouley, before quoted, for information. We would, however, here remark that it is a principle well established in the surgery of the urethra, that the removal of the irritation caused by the stream of urine forced through a lacerated or constricted point, favors not only the restoration of the continuity, but the spontaneous disappearance of the constriction. Therefore, in cases of laceration of the urethra, with obstruction of both the stream of urine and instruments, the perfectly free escape of the urine from a perineal opening behind the obstruction is a most favorable circumstance for the restoration of the canal. A most remarkable instance of the tendency there is to a restoration of the continuity of the urethra, when thus favored by removing the irritation caused by the stream of urine impinging against it, is afforded by the case of the boy,

No. 14 of Dr. Gouley's table in the paper we have alluded to. By a reference to that table it will be seen that the case is recorded as "*occlusion of the urethra*," and that, in consequence of such occlusion, a protracted effort was made to establish a perineal fistula posterior to the occlusion. How much reason there was for that diagnosis, any one acquainted with the great dexterity of Dr. Gurley can understand. If the injured urethra was so disarranged, or distorted or disorganized, that he could not trace it nor pass it, its condition must have been wellnigh desperate; and yet we found this same patient, a few months after the discontinuance of the efforts to establish a perineal fistula, with a urethra large enough to admit a No. 5 sound, and lined with an apparently normal mucous membrane from the meatus to beyond the fistulous opening. The boy's supposed occluded urethra had been restored during the long period of time that the urine passed by the perineal fistula, so that the operation we were called upon to perform was simply for the purpose of closing the fistula. We have, of course, no means of knowing when an instrument could first have been passed through the urethra of this boy; but we suspect that it would have been possible, a long time before he came into our hands. With the idea, then, that absolute occlusion is rarely, if ever, met with in these cases, especially if sloughing of the tissues involved be prevented by the early free opening of the urethra behind the seat of injury, we think the line of treatment is very clear as to the use of sounds or other instruments.

After the subsidence of the swelling and inflammation, and the complete establishment of the restorative action in the parts, the cautious trials of the bougie should be commenced; at the same time the perineal opening should be kept perfectly free by daily dilatation, till the bougie passes readily down to it from the meatus.

In conclusion, we desire to state that our motive in preparing the above history, and remarks thereon, for the press, has been to set forth concisely the most rational and of course approved treatment of a class of cases by no means infrequent all over our country, but about the pathology of which there is universal confusion; and, worse still, about the treatment of

which there is by far too much want of exact knowledge—a want which finds ample excuse in the fact that most of the text-books on surgery offer little information upon the subject, while the precepts of many of them are without the support of truth, and calculated to lead into dangerous error.

ART. IV.—*The Mineral Waters of Saratoga.* By FREDERIC D. LENTE, M. D., of Cold Spring, N. Y.

THE country seems suddenly to have become alive to the importance of *mineral waters* in the treatment of almost every form of disease. There is scarcely a week which does not usher into public notice, by handbills, newspaper advertisements, certificates, medical and clerical, curbstone and drug-store posters in large letters, some new liquid wonder of the earth, either native or foreign, or some artificial representative of one. It is, in fact, a medical mania, like so many of its predecessors, which have swept over the land for a brief period, and, after making the fortunes of a few lucky individuals, have passed out of use and out of mind. Many of these waters may be pronounced at least harmless; since, notwithstanding the remarkable *analysis* accompanying the bottles or barrels, they have been pronounced by competent chemical and clinical authorities examples only of remarkably pure water. Others, purporting to be *natural* waters, are “doctored,” as it is termed, that is, have been tampered with by adding various saline matters, to give what Nature has denied them. These are positively injurious in some cases. Others, possessing a certain degree of merit, are contaminated by the corrosion of the metallic lining of the vessels in which they are sold, in order to cheapen them, to enable the “trade” to realize larger profits, and thereby to *interest* each dealer in recommending them as superior to their competitors.

One injurious effect of this freshet, this multiplication of waters, is to confuse the public, and even the professional mind on the subject, and to divert invalids from the proper use of the really valuable remedies of this class. Worse than all, in order to break down, if possible, the well-earned repu-

tation of these, and thus increase the demand for the neophytes, the proprietors of the latter have resorted to misrepresentations. To one particular instance of this I have thought it proper to direct the attention of the profession. I refer to the "Congress Spring" of "Saratoga Springs." By this I mean *the* Congress Spring; not the "High Rock Congress Spring," nor the "*new* Congress Spring." This far-famed water, which has given celebrity to the equally-noted watering-place in which it is situated, and which has been under trial for nearly three-quarters of a century, has come to be regarded for a long period, not only as a luxury, but a necessity to thousands of our citizens in all parts of the country, many of whom annually visit Saratoga for the purpose of drinking it at the fountain-head. A great many of our most distinguished physicians have been in the habit of prescribing this water extensively in their practice, either in the bottled form, or by sending their patients to headquarters. To all these, any circumstance affecting the reputation of the remedy is of importance, as would be the case with any other valuable remedy in the *materia medica*. To all of these, the failure of their old favorite, or a serious deterioration of its remedial virtue, or even of its sensible qualities, would, no doubt, be a source of real regret. For many years reports have gone abroad from time to time of the failure of the spring, of a diminution of its gaseous constituent, etc. But it has been always found, on inquiry, to present its usual quota, except when some accident has temporarily deranged the tubing. Latterly, it has become important, to parties interested in other waters at Saratoga and elsewhere, to impair the reputation of the "Congress;" more systematic efforts have been made toward effecting this; reports have been spread far and wide of a deterioration of its previously-admitted excellence. To those who are well acquainted with this water, and especially to those who are in the habit of annually visiting Saratoga, it is not necessary to say that these reports are as utterly devoid of foundation as those previously circulated. But even these may be deceived in one way, and that is by having water palmed off on them by the word "Congress" on the label, or even blown in the glass, which is either Saratoga water from an inferior spring,

or an *imitation* of the "Congress." But to others the writer would say that, from having been an annual visitor at Saratoga for a number of years, and having a portion of his family constantly resident there, and from a thorough acquaintance with every manipulation and repair which this particular spring has undergone for some years, he can most positively affirm that the Congress Spring water is as excellent in its effects and in its sensible qualities now as it has ever been.

With regard to other waters of Saratoga, to which general allusion has been made in this paper, I do not wish to be understood as denying their valuable properties, when they can be had in such a shape as to be uncontaminated by their mode of packing and transportation. Among the scores of valuable springs for which the valley of Saratoga is so justly celebrated the world over, and which indeed render it unequalled by any known locality for *general* adaptability to the cure or prevention of disease, other waters *may* be equal to the "Congress," indeed may be better for *certain conditions* of the system. But for general safety and efficiency in the various idiosyncrasies of the thousands who have regularly used the various waters in the course of the last half century, so as to give them a *comparative* trial, no one has stood the test like the "Congress." When those which, we may say, in comparison, have only just commenced their career, have stood the same test, or even a fair portion of it, we may venture to pass judgment.

It is not necessarily the waters which have the most saline taste, or the greatest proportion of saline ingredients, that operate most satisfactorily even on the alimentary canal; nor will we be apt to get a proper effect on the bowels by taking an overdose of a saline water. An inordinate dose of Congress water, for instance, or a moderate dose at an inappropriate hour of the day, sometimes produces no cathartic effect at all, but, on the contrary, constipates, and induces *malaise*; whereas, a dose of a pint before breakfast, and aided by a slight amount of exercise, will produce, on the same patient, a pleasant and sufficiently-cathartic effect. Many persons imagine that a slight difference in the analysis or chemical constitution of mineral waters makes but a slight difference, if

any, in their effect on the human organism. But those who have had an extended experience among the springs of Saratoga know the contrary. One water, having but an apparently trivial percentage of one or two of their numerous ingredients more than another, will not only have no beneficial effect on certain patients, but one positively injurious. All medical men know how slight an addition to some particular combination of remedies, especially such as are designed to act on the liver and alimentary canal, will cause it to develop an unexpected and perhaps injurious power. Another very prevalent and more dangerous error among the public is, that, because remedies are taken in the form of a clear water gushing from the bowels of Mother Earth, pleasant to the eye, and often to the palate, they can do no harm. Any remedy which can do good, can, as may be generally affirmed, do proportional harm if inappropriately or improperly taken. The amount of solid matter taken in a few glasses of most of our mineral waters seems undoubtedly very insignificant, as compared with our doses of ordinary drugs. But we must remember that the peculiar manner in which they are combined in Nature's laboratory, which no *human* skill has yet equalled (it would be rash to say never will), and their very dilution, render them rapidly and completely absorbable, comparing somewhat in effect with the hypodermic injection. These considerations, and many more which might be adduced, if space permitted, indicate that we should be slow to abandon a remedy already thoroughly tested and approved for all but exceptional cases, in favor of those which only time and patient investigation by a multitude of observers can place on as safe a basis.

This paper might be lengthened by a long list of certificates in corroboration of its statements regarding the "Congress Spring," both from medical and lay authorities, who have had a more or less considerable acquaintance with the different springs, but it was thought to be amply sufficient to refer to those only of the writer's acquaintance who have visited the springs year after year, or who have been in the regular habit of using the waters, and especially that of the "Congress Spring," as such persons only are capable of giving a fair ver-

dict. The only interest which these gentlemen have in the spring is that which we all feel for the welfare of an old and valued friend. The venerable N. F. Moore, of Garrison's, formerly President of Columbia College, is probably the oldest visitor of the springs out of Saratoga, having commenced in 1805, and from his scientific knowledge, and the interest which he has always felt in the geological formations, mineral products, and other natural features of Saratoga, is well qualified to judge of the past and present condition of the waters which he has been in the habit of using; he authorizes the writer to say that he can perceive no difference in the effects or sensible properties of the Congress Spring, his last visit having been in July last. The other references are Professors William H. Van Buren, M. D., and George T. Elliot, M. D., of New York City, and Professor A. E. Church, of the West Point Military Academy, all of whom have used the waters of Saratoga, both from bottles and at the springs, for many years.

Reviews.

ART. I.—*The Science and Art of Surgery; being a Treatise on Surgical Injuries, Diseases, and Operations.* By JOHN ERICHSEN, Professor of Clinical Surgery in University College, London. From the fifth enlarged and carefully-revised London edition. Illustrated with six hundred and thirty Engravings on Wood, with Additions by John Ashhurst, Jr., M. D., Surgeon to the Episcopal Hospital, etc. Philadelphia: Henry C. Lea. 1869. 8vo, pp. 1228.

ERICHSEN'S Surgery needs no review at the present day. Long ago it took and has since maintained a leading position in surgical literature, and this position is so firmly held, that no efforts on the part of a reviewer would serve to weaken the estimate which has been placed upon the book—nor, indeed, could they materially strengthen it. The duty, then, devolving upon us is simply to note the appearance of this new edition, and to point out the improvements therein made. The additions made by the author consist not alone in the extending

of the old articles, but the incorporation of new chapters on special subjects. For instance, we have now laid before us a full description of the surgical diseases and operations of the eye and its appendages. This portion of the work has been prepared by Mr. Streatfeild, Mr. Erichsen's colleague in the ophthalmic department of University College Hospital. Ophthalmology having become a distinct branch of surgery, Mr. Erichsen has, we think, acted wisely in intrusting the preparation of this part of his book to one specially skilled in this department of science. The propriety of introducing the subject at all in a work on general surgery might, with more reason, be questioned. But, so far as relates to the book itself, it certainly is rendered more complete and useful for the general practitioner. The progressive enlargement of the book has so increased the size, that the English edition was issued in two volumes. These the American publisher has put into one, with the result of making a huge, unwieldy tome almost forbidding in its aspect and size, and not calculated to inspire the student with any assuring conviction that he has an easy task before him, and, at his very entrance into the royal road to learning, confidence may yield to despair. But the book has outgrown, by very necessity, the wants of students, and there is to-day a striking need of some well-digested but sufficiently elaborated work on surgery, especially adapted to the use of students, and brought within proper limits as to size. By this we do not mean any compend or handy-book, or any other short-cut path to perfection. These things are an abomination, and have done quite as much to injure the standard of professional qualifications in this country as any other one feature of our loose educational system.

The additions made by the American editor are chiefly upon points of practice, and some of them tend materially to increase the value of the book, while others might have been inserted without detriment. For instance, there are some ideas entertained in this country upon fractures of the lower jaw and the thigh, on the operations of external perineal section, vesico- and recto-vaginal fistula, ovariectomy, reduction of dislocations by manipulation, and other trifling little matters, which ideas are generally believed to be of some value, and

might appropriately have demanded more attention from the editor than he has given them. In one other point, which may be considered a mere matter of taste, however, we think an amendment might have been made with manifest advantage, and a considerate regard for the honor of American surgery ought to have induced this amendment. It is simply this: that American surgery and surgeons are not confined to the city of Philadelphia, as a stranger would naturally infer by examining Dr. Ashhurst's notes to the volume before us. Although Philadelphia has long held the high honor of being the great centre of medical teaching in this country, and must ever be held in reverence for that she has done more, probably, than any other one city for the advance of medical education, she does not monopolize all the great names of America, nor have all the advances in the medical art emanated from her distinguished sons; or, if we might put it in a little different shape and more tersely, Philadelphia is not the United States.

But, as regards the real value of Mr. Erichsen's work, this criticism is unimportant, and, taking the book in its totality—to use a legal phrase—it is one of the best, if not the best, in the English language.

ART. II.—*A Compend of Materia Medica and Therapeutics, for the Use of Students.* By JOHN C. RILEY, M. D., Professor of Materia Medica and Therapeutics, in the National Medical College, Washington, D. C. Philadelphia: J. B. Lippincott & Co. 1869. 8vo, pp. 370.

WE are delighted to see a book on *Materia Medica* put out with a distinct disclaimer of being taken for more than it really is. Hear what the author says in the very opening sentence of his preface: "This work is simply a compend of the *Materia Medica*, and is not designed to be a full exposition of the subject. It is, in fact, a comprehensive syllabus, embracing outline descriptions of the articles and subjects named, which the student may complete in the lecture-room, or by reference to the United States Dispensatory, or to the more extended text-books on the subject." There can be no mis-

taking this language; and although as a rule we are opposed to books prepared especially for the use of students, on the ground that they generally encourage irregular habits of study, and impart only superficial knowledge, we must admit that Prof. Riley has done his work very well. Being a lecturer on Materia Medica, we take it that this book is a "comprehensive syllabus" of his own course, probably following the plan of his lectures. The classification adopted is that of Wood, so well known and much followed in this country.

The descriptions of the various articles of the Materia Medica are very concise and remarkably accurate. No words are wasted over modes of preparation or different authors' views; and though this positivism may occasionally lead to error, on the whole, perhaps, it is the best mode of dealing with the subject, in a work of the character of that now before us. The introductory chapter on the *modus operandi*, effects, forms, classification, etc., of medicines—a chapter which generally in works on this subject is spun out to an inordinate length—is brought within a compass of fourteen pages. In the application of the medicinal agents to special diseases we find the weakest portion of the book; though it must be remembered that the fixing clearly in the mind the class to which a given agent belongs suggests constantly its applications, and thus encourages the student to a systematic observation of the effects of remedies. Thus we find it rarely stated in the book before us that Dr. Smith, Brown, or Jones, has found this or that remedy useful in this or that disease, but the most important disease or class of diseases for which a remedy is recognized as valuable is stated, no one being made sponsor for the assertion, and sometimes with a brevity quite startling. If one would learn the applications of remedies as made by different observers—for, as we remarked above, Dr. Riley generally steers clear of all authorities—he must go to Waring's book, which we consider the most remarkable compilation in this respect ever made, and a most valuable one it is also.

We do not mean, by this, to bring these two books into comparison. They are wholly unlike each other. If any comparison were to be made, Prof. Biddle's well-known volume would at once suggest itself as the most closely-allied

work in our language; but the comparison, if entered into with minuteness, would hardly be in favor of the latter. But we take the book before us just at what it purports to be, and as such, i. e., as a syllabus to be filled up by systematic study, we consider it the best of the kind now extant.

Bibliographical and Literary Notes.

WE have examined with much satisfaction this the first number of a journal¹ which it is proposed to issue semi-annually, and we hardly know which to admire the most, the high scientific character of the work or the liberality of the publisher in undertaking a publication of such a nature; for, unless we mistake greatly the popular taste of the profession, and their demands in the matter of literature, this will hardly prove a very remunerative venture in a mercantile point of view. It is therefore doubly creditable, and we only hope that sufficient encouragement may be given to the work to sustain it. The journal is intended only for original articles, and the present number contains twenty-seven papers of great value to those engaged in the study and practice of diseases of the eye or ear. Nine of these articles are by our own countrymen, and we need only mention their names as a guarantee of the high standard of the papers. They are: Pope, of New Orleans; the late Dr. O. M. Pray, of Brooklyn; Noyes and Roosa, of this city; and the Drs. Williams, of Boston and Cincinnati. Dr. Knapp, the editor, whom we now claim as a New-Yorker, contributes three articles. The remainder are furnished by such names as Liebreich and Wecker, of Paris; Hinton, of London; Moos, Erb, Kaiser, and Berlin, of Germany.

The translation of some of the articles, we regret to observe, is not particularly happy, the French and German idioms being retained to such an extent as to make rough work for the English reader, and even occasionally to mar the sense of

¹ Archives of Ophthalmology and Otology; edited and published simultaneously in English and German. By H. Knapp, M. D., New York, and S. Moos, M. D., Heidelberg. Vol. i., No. 1. New York: Wm. Wood & Co., 1869. 8vo, pp. 364.

the originals. But this is a fault which can easily be corrected in the subsequent issues of the journal. The lithographic illustrations, colored and plain, which accompany the volume, are superbly executed. They are printed in Germany, and imported in the sheet. It would be quite out of our line to enter into any criticism of the special subject-matter of the papers presented in the *Archives*; but, with an abiding faith in the authority of the names above recorded, for ourselves we accept the work on trust, and, leaving to those skilled in these departments of medicine the decision of this point, we may, with some degree of authority, again compliment both publisher and editor on their handsome contribution to science.

THREE years since, on the appearance of the first edition of this work,¹ we took occasion to notice at some length the contents, and to speak of its character and adaptability to the wants of the practitioner. The appearance of a new edition now affords an opportunity for renewing the commendations formerly passed on the book. The principal author, Mr. Laurence, has prepared this edition, which is considerably enlarged, and, by remodelling in parts, is much improved. Several new illustrations are introduced, and a selection of Snellen's test-types—to which frequent allusion is made, in the body of the work—is added, making the book much more complete than when first presented to the public.

DR. CROSBY has given us here a most charming sketch of the character of the late Dr. Mussey,² one of the most remarkable men in the profession, of his day. Retired some years since from active practice, Dr. M. will be comparatively unknown to the younger members of the profession, and yet the

¹ A Handy-Book of Ophthalmic Surgery, for the Use of Practitioners. By John Q. Laurence, F. R. C. S., etc., assisted by Robert C. Moon. Second edition, revised and enlarged, with numerous Illustrations. Philadelphia: Henry C. Lea. 1869. 8vo, pp. 222.

² An Address Commemorative of Reuben Diamond Mussey, M. D., LL. D., and introductory to the Annual Session of the Dartmouth Medical College. By A. B. Crosby, A. M., M. D., Professor of Surgery. Pamphlet reprint, from the Transactions of the New Hampshire Medical Society. pp. 23. (From the Author.)

story of his life is a most admirable study for all. It was our fortune to see Dr. Mussey perform, we believe, the last capital operation he ever undertook, that of lithotomy, in which particular operation he had acquired a well-deserved celebrity. The issue of this case was unfortunate, and we have ever believed it tended to confirm the doctor's intention, which he had for some time entertained, of retiring from practice. We must express our thanks to Dr. Crosby for the memoir he has given us, interesting, not merely from personal remembrances, but as a record of a noble, well-spent life, which is brought out in sharp prominence by a delineation of the peculiar eccentricities of the subject of the sketch.

THIS¹ is the first attempt at introducing order in private practice by keeping a record, not only of what we do, but of how our patients do. That record taken at the bedside, mostly with the help of the instruments of positive diagnosis, saves instead of costing time. The old visiting-lists contain valuable information to failing memory; the new record contains tables of diagnosis, prognosis, and treatment for every case, chemical and microscopic analysis, diagrams to note the results of auscultation and percussion, to ascertain the immediate and serial effects of electricity and tetanic remedies, etc. It has the pretension of being *the* pocket-book of every careful and progressive physician; and, as every physician ought to be careful and progressive, the sale of this fifth edition of the *Record* will be very large. It deserves it at least.

In his preface² Mr. Lawson says: "In this manual is comprised a brief account of all the medical and surgical affections of the eye, with the treatment essential for their relief. . . . The scope of this work forbids profusion of detail. When, therefore, fuller information is required, I

¹ Prescription and Clinical Record. By E. Seguin, M. D., New York. William Wood & Co. 1869. Price 50 cents, or three copies for \$1.

² Diseases and Injuries of the Eye; their Medical and Surgical Treatment. By George Lawson, F. R. C. S., Surgeon to the Royal London Ophthalmic Hospital, etc. Reprinted by Lindsay & Blakiston. Philadelphia, 1869, pp. 436.

must refer the reader to 'Treatise on the Eye,' by Mr. Soelberg Wells," etc.

The practitioner who is really too much occupied to consult a large work, and wade through the "profusion of detail," will find this a well-written book, with useful directions for treatment given in a small space. The part relating to *injuries* is particularly noticeable for its practical nature.

At the end of the book there is a formulary of prescriptions, one hundred and twenty-eight in number, twenty-two of which, or over seventeen per cent., contain some preparation of mercury. We think that, in this country, at least, the use of mercurials in diseases of the eye is gradually growing less popular.

The author has also furnished his English readers with "a page of test-types, reduced from those of Dr. Orestes M. Pray, of New York, to aid in the diagnosis of astigmatism."

THIS number of the *Compendium*¹ presents a faithful synopsis of the most important contributions made to the science of medicine for the half-year previous to date of publication. In some respects, it is an improvement over the earlier numbers; the selections are made with discretion, and the condensing of the articles is remarkably well done. To the American practitioner we consider this *Compendium* more valuable, in many respects, than the foreign publications of the same order, for it represents more fully American ideas and practice, drawing a large proportion of its valuable materials from our own journals, and at the same time it takes care to keep its readers well informed on the progress of the science abroad.

DR. JOHN H. PACKARD, of Philadelphia, has issued a new edition of the "Rules for the Immediate Treatment of Persons Injured on Railways." Since the first issue of this useful little sheet was made in 1866 (see this *JOURNAL*, December, 1866), over four thousand copies of the same have been distributed on the different railroads of the country, and there can be no doubt they must have accomplished much good. Another sheet is

¹ Half-yearly *Compendium of Medical Science*, part iv., July, 1869. By S. W. Butler, M. D., and D. G. Brinton, M. D. Philadelphia: S. W. Butler. 8vo, pp. 325.

now issued, containing instructions for the bystanders in the case of injury by machinery. These sheets are supplied at cost price, \$30 per thousand, on paper, and \$100 per thousand on card board. A copy ought to be put into every machine-shop and manufactory in the country.

The *College Courant*, to us one of the most interesting and valuable of our non-professional exchanges, is continually improving its college, literary, and scientific records. It numbers among its contributors more than a hundred of the ablest college presidents and professors in the country, and has now commenced a series of illustrated biographical articles, which, judging from those already published, will be of special interest. The paper is indispensable to all college graduates of this country. The impression which we find to be so common, that it is especially an organ of Yale College, is quite unfounded in fact, though some plausibility is lent to this view by its keeping up an "undergraduate department," for the benefit of the students at New Haven, where it happens to be published. We read this journal constantly and conscientiously, and we think, if it could cut loose from this department, it would be an advantage. It has always been to us a source of regret that our own *alma mater*, the only college in the country that rivals Yale in age, and in the number of its graduates, should be so slimly represented in the *Courant*. But this is no fault of the editor; and, now that Harvard has put on a new life, we trust, in the administration of her youthful president, we hope some of her sleepy alumni, say, for instance, the class secretaries, will wake up and let us know what the busy and successful ones are about—for they we take it are too much occupied to say any thing of themselves. Secure a promise, Mr. Editor, from the secretary of each class as it graduates, to keep you informed of the "actual state of affairs," and you will secure the good-will, and we hope the subscription, of every Harvard graduate.

PORTRAITS OF DISTINGUISHED PHYSICIANS.—We have received from Dr. William H. Helm, of Sing Sing, N. Y., a package of photographic portraits of distinguished medical men.

The collection numbers one hundred, and has been gotten up by Dr. Helm at no little cost of money and time. As mere studies in physiognomy, the collection is most valuable, but the special interest for the profession of this country is to familiarize them with the appearance of the great men whose names they have long held in high honor. We trust that the undertaker of this work, who has entered into it, not as a speculation, but merely for the purpose above indicated, and at the urgent request of many members of the profession, will be fully compensated for his expenditure. The set is furnished at the very reasonable rate of \$15.50 per hundred, or \$2.00 per dozen. Catalogues will be furnished on application.

THE *Chicago Medical Journal* comes to us this month in a new and beautiful dress. Dr. Allen, the editor, has transferred the *Journal* to Messrs. Keen & Cooke, the well-known publishers and booksellers of Chicago, by whom it will hereafter be issued. We congratulate the editor on this escape from the annoyance of the business management of his journal, assured that he will now be able to render his publication much more valuable to the profession, which, by-the-by, there was no occasion for, inasmuch as already it was one of the best in the country.

DR. GEORGE M. BEARD, of this city, in a letter written from London to the *Medical Record*, thus speaks of American medical authors and their works :

I have become somewhat acquainted with the leading publishers, and have had the curiosity to ascertain in regard to the transatlantic popularity of some of our best-known writers in science. Hamilton's "Treatise on Fractures and Dislocations" is regarded here, as with us, as the supreme authority on the subject on which it treats. Both of Bedford's works have a constant and flattering sale.

Thomas's recently published "Treatise on Diseases of Women" has already met with a good reception in England. Gross's Surgery, Bumstead's Venereal, the writings of Professors Flints (Senior and Junior), Dalton's Physiology, Dunglison's Medical Dictionary, Da Costa's Diagnosis, and Elliot's Obstetric Clinic, all meet with a good sale. Messrs. Trübner & Co. inform me that the popularity of American medical works is decidedly on the increase in England.

In the popularization of medical science—at least in the preparation of treatises for the masses, in popular language—the English are certainly much in advance of us. Not only are there popular works on medical science in general, but special treatises on special departments of medicine are prepared by competent and acknowledged authorities in that department, published in a cheap and convenient form, and sold in large numbers. I examined to-day, at the well-known medical publishing-house of Churchill & Sons, about a dozen manuals on various departments of medical science for popular use. The list includes a treatise on the skin, by Erasmus Wilson; three works by Chavasse, containing advice to mothers and families; a medical hand-book, by Headland; a paper on the climate of India, by Tilt; annotations to Chavasse's popular treatises, by Sir Charles Locock; and still another work on the skin, by Squire.

One very powerful and efficient medium of communication between the profession is the *Lancet*. This journal is taken at the clubs in town, and is read by very many who know nothing of medicine. It is also sold at some of the principal stands and news-rooms, side by side with the secular weeklies and dailies. This very evening, as I called at a bookstore to purchase a copy of the London *Illustrated News*, I saw the *Lancet* side by side with *Bell's Life* and *Lloyd's Weekly*; and the proprietor of the establishment told me that it always met with a good sale.

BOOKS AND PAMPHLETS RECEIVED.—On the Detection of Red and White Corpuscles in Blood-Stains, by Joseph G. Richardson, M. D. (Reprint from the American Journal of Medical Sciences.)

Report upon the Convention of Cattle Commissioners, held at Springfield, Ill., December 1, 1868, and upon the Texan Cattle-Disease, by Edwin M. Snow, M. D. Pamphlet, pp. 14. (From the author.)

Catalogue of the Museum and Library of the Hahnemann Medical College of Philadelphia.

Inaugural Address delivered at the Hahnemann Medical College, Philadelphia, Pa., by Lemuel Stephens, M. D., Professor of Chemistry. (From the author.)

Small-pox, and the Protective Power of Vaccination, in the City of Providence, R. I., by Edwin M. Snow, M. D. (From the author.)

The would-be reformers who are now endeavoring, through the medium of the public press, to awaken the prejudice of the people against vaccination, would do well to read this little paper. They might learn a lesson from its pages which would go far toward counteracting the insane notions they now entertain upon the subject in question.

Introductory Address delivered at the Opening of the Ninth Annual Session of the Bellevue Hospital Medical College, by Prof. William H. Van Buren, M. D. D. Appleton & Co. 1869. 8vo, pp. 20.

On the Treatment of Uterine Catarrh, by Joseph Kammerer, M. D. Pamphlet reprint from the American Journal of Obstetrics.

Anniversary Oration delivered before the Medical Society of the District of Columbia, September 26, 1866, by J. M. Toner, M. D. Pamphlet, pp. 80. (From the author.)

Dr. Toner's address is an historical sketch of the various medical societies which have been established in the territory known as the "Ten Miles Square," and which have contributed to form the present Society. The address, although local in its character, is full of interesting information concerning the profession of the "District of Columbia," and it might well serve as a model for other local societies, thus to put on permanent record matters the value of which increases with time, for, as time passes, the collection of such materials becomes more and more difficult.

Carbolic Acid; its Surgical and Therapeutical Uses. A Paper read before the Cincinnati Academy of Medicine, by William B. Davis, M. D. Pamphlet, pp. 13. (From the author.)

Thirteenth Annual Report upon the Births, Marriages, and Deaths, in the City of Providence, R. I., for the Year 1867, by Edwin M. Snow, M. D. Pamphlet, pp. 48. (From the author.)

Third Annual Report of the Home for Incurables at West Farms, Westchester County, N. Y.

Aiken, or Climatic Cure, by Amory Coffin, M. D., and W. N. Geddings, M. D. Pamphlet, pp. 58.

This little pamphlet contains a large amount of valuable information relating to the fitness of the climate, topography, and surroundings of Aiken as a home for consumptives. Though probably written from a mercantile point of view, it is still strictly professional, and physicians who are about to advise patients to winter in the South will do well to acquaint themselves with the information contained in this *brochure*.

A Plan for laying Sewer, Water, and Gas Pipes, so that Connections may be made with them without disturbing the Street Pavements. New York: George F. Nesbitt & Co. 1869. Pamphlet, pp. 8.

Electricity as a Means of Diagnosis, with a Tabulated Statement of Five Hundred Cases of Disease treated mainly by the Method of General Electrization, by A. D. Rockwell, M. D. Pamphlet, pp. 20. (From the author.)

This paper was read at a meeting of the New York Medical Journal Association, October, 1869; and, while it advances nothing new, it is a

timely contribution, now that the systematic use of electricity is attracting so much attention.

Proceedings of the Academy of Natural Sciences of Philadelphia, No. 2, May, June, and July, 1869.

The History of Nine Cases of Ovariectomy, by T. Gaillard Thomas, M. D., Prof. of Obstetrics and Diseases of Women and Children in the College of Physicians and Surgeons, New York. (Reprint from the Bellevue and Charity Hospital Reports.) New York: D. Appleton & Co. 1869. Pamphlet, pp. 27.

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Report on Intracranial Tumors, their Symptomatology and Diagnosis, with Illustrative Cases, by Roberts Bartholow, M. D., Prof. of Materia Medica and Pathology in the Medical College of Ohio. Columbus, Ohio: Nevins & Meyers. 1869. Pamphlet, pp. 35. (From the author.)

Reports on the Progress of Medicine.

DERMATOLOGY.¹

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THIS report embraces in detail only a few months, and is necessarily limited, since very little new or startling matter has appeared in dermatology during that time. But, before entering upon this, the proper work of the evening, I will, with your permission, run rapidly over some of those prominent points in the history of dermatology which stand out as landmarks, indicating the great stages in her progress—the stepping-stones over which she has raised herself to her present respectable position among the sister specialties.

The much-abused classifications of skin-diseases, from those of Galen and Mercurialis down to the present day, have served their end, and have given place to the two ruling classifications of to-day, the pathologico-anatomical and the natural.

About classifications a word or two will be sufficient. Up to the last century all was confusion, and it was not until 1780 that the foundation of modern dermatology was fairly and fully laid. In that year the Hungarian nosologist, Plenck,

¹ Read before the Society for reporting the Progress of Medicine, November 11, 1869.

put forth his classification to the world. Willan took it up a few years afterward, and attached his name to those elementary lesions which, more or less modified, have ever since and always must form part and parcel of every system of classification. Early in the present century Bateman continued and amplified the work of his master, filling up many vacancies and helping to establish the broad basis upon which the superstructure of modern dermatology rests.

The influence exerted upon all branches of medicine, by modern pathological and physiological investigation, naturally shaped out in dermatology a pathologico-anatomical classification, founded by Rayer in 1826, which, to a greater or less extent, embraces at present the systems of the majority of dermatologists—the German school, perhaps, headed by Hebra, taking the lead.

But the influence of the so-called natural classification is also largely felt. Originated and somewhat fancifully exposed in the early part of the present century by Alibert, and recently strongly advocated in a modified form by Bazin and Hardy, it has obtained for itself a certain recognized position, and enters more or less into the majority of all modern classifications.

In France it has its strongest hold; but while few in this country will concede to it all that is claimed by its acknowledged advocates, yet few will be found to deny that, in establishing as firmly as it has the distinct classes of the parasitical affections and the syphilides, which latter, according to some investigations of Hutchinson, recently made,¹ comprise, on an average, about one-eighth of all skin-diseases, as they are generally encountered, that, in establishing these two, I say it has materially and permanently advanced the study of dermatology.

Although the class of scrofulides is still somewhat vague and misty in its outlines, and the so-called arthritides and dartres are considered as purely hypothetical by many, yet the influence of a diathesis or of a constitutional tendency in modifying the manifestations of a given cutaneous eruption must be recognized as of importance to the just appreciation of the whole scope of any given disease, and of utility in suggesting the most rational treatment.

The amount of interest which has been taken by the profession in dermatology is perhaps best evinced by the rapidity with which the four existing journals, devoted entirely to it and to its kindred subject, syphilis, have succeeded each other, and the demand being once felt for special literature on the

¹ British Medical Journal, January, 1868.

subject, the promptness with which it was met indicates plainly the number and ability of the workers already in the field. America has only recently waked up to the fact that dermatology is worthy of special investigation; but the articles in medical journals, and the monographs which are now beginning to be more numerous here, and especially the new journal devoted to dermatology and syphilis, which is just starting in this city, all show that this country also possesses some earnest laborers, whose efforts will keep up the advance now so general in Europe.

Only one of the existing dermatological journals is at present advocating any special reform; ¹ but, as that reform relates only to terminology, and as its suggestions do not seem likely to be adopted (for the truth must be told), it can hardly be considered, yet at least, of much importance.

The nicety and precision of classification, as it exists now, are very gratifying, when compared with the state of things a hundred years ago, but we have been long in reaching this result.

One of the most constant properties of truth is, that it advances slowly, and perhaps no better illustration of this fact can be found than what dermatology affords in the history of the itch.² It is interesting enough, I think, to be repeated, and, with your permission, I will recall it to your minds. Any first-course student in medicine of to-day recognizes the little *acarus* as the sole and only cause of the disease, but yet for how many years was it a mystery to the wisest!

HISTORY OF THE ITCH.

Captain Dabry assures us that the disease was known by the Chinese four thousand years ago, and was called *tchong-kiai*, signifying pustules formed by a worm.

Avenzoar, in the twelfth century, is reputed to be the first to have reported the presence of a little animal in the disease, so small that it could hardly be seen, covered by the epidermis, and escaping as soon as an opening was made. The parasite was afterward recorded by many authors, and figures given representing it.

In 1812, Galès published the first monograph upon the subject, described the animal, and gave a plate representing it. This plate was reproduced in books for fifteen years, as an exact representation of the parasite, but it did not correspond with the figures given before, and further investigation threw doubt upon its accuracy. Alibert and Biett tried in vain to

¹ Journal of Cutaneous Medicine.

² Moquin-Tandon. Zoologie médicale. Paris, 1862.

find it, and finally Raspail discovered that the figure was an exact representation of the cheese-mite. Incredulity again returned to the profession, and as lately as the year 1821 Lugol offered three hundred francs to any one who could show the animalcule causing the itch. This was finally done, first, in 1834, by François Renucci, assistant of Alibert, who extracted the insect in the presence of numerous spectators, and thus put an end to the controversy.

Since that time, the animalcule has been pretty generally considered to be the sole cause of the disease, but even now some authors of note deny to it the rôle of causality. Divergie, for example, in his *Traité pratique des Maladies de la Peau*, Paris, 1863, arrives at these two conclusions:

1. That the itch may be a spontaneous malady.

2. That if the acarus is constantly present in the itch as a coincidence, yet the theory of its existence can just as well admit that the insect is a morbid product as that it is a morbid cause and agent of transmission.

VEGETABLE PARASITES.

The vegetable parasites causing cutaneous eruptions have not shared so hard a fate. Their history includes but little more than thirty years, and the labors of Gruby and others in establishing them, and of Bazin in popularizing the knowledge concerning them and instituting a rational treatment, have been most successful.

But still conviction is not universal, and no less a name than Erasmus Wilson heads the van of dissenters, denying the parasites as a cause of disease or of contagion (positive experiments in proof to the contrary notwithstanding), and looking upon them only as secondary formations—as a so-called “phytiform degeneration” of the tissues and secretions of the body.

The labors in parasitology have, however, been successful, and their results mark a bright era of progress for dermatology.

As to the discovery of new parasites causing skin diseases, a little has been done, but the discoveries have been, as a rule, of slight practical importance. Perhaps the most positive advance in this direction (to go pretty far back) was, the establishment of the identity of the parasite (the *Trichophyton* of Malmsten) in the three diseases, sycosis, herpes circinatus, and herpes tonsurans, and a recognition of the fact that the same parasite may give rise to seemingly different disorders according to the nature of the soil upon which it develops. Later (1864) and still more important is Kœbner's discovery that this same parasite is the cause of the disease described by Hebra as *eczema marginatum*. Pick has recently studied this

disease exhaustively, and made it the subject of a long and interesting article in the first number of his journal.¹ Hebra responded, upon which Pick closed the discussion and proved his point, placing eczema marginatum among the parasitic diseases, and proving it to be a herpes tonsurans vesiculosus joined with an intertrigo, thus forming a compound disease.²

ELEPHANTIASIS ARABUM.

Among the more positive practical advances of recent date may be mentioned the fact, now so well established, of the marked influence exerted upon a limb affected by elephantiasis arabum brought about by arresting the circulation through the main artery of the part. Many successful cases have been reported during the last few years. Ligature of the artery has been usually resorted to, but that this is not always necessary, is proved by Vanzetti's case,³ where a cure was effected by digital compression alone.

The last summary on the subject is given by Dr. Fisher,⁴ of Hanover, who tabulates the cases which had occurred up to date, twenty-one in number. Out of these, eleven are reported cured, nine entirely, and two very nearly. In two cases there was improvement. In seven no improvement or death was the result; and one, Vanzetti's case, was cured by digital compression. The table proves that this method, although not necessarily successful, is yet an improvement on the treatment previously in use. The idea of curing elephantiasis by interrupting the circulation of a limb originated, it appears, with Dr. Dufour, since, in an article written by him in the *Gazette Hebdomadaire*, 1863, he states that his first attempts in this direction date back thirty years; in other words, he was already experimenting the idea in 1833.

EPHEMERAL CONGESTIVE TUMORS.

Dr. Perroud, in an article on congestive ephemeral tumors of the skin,⁵ states that these tumors have been but little written upon heretofore. He quotes two observations published by Graves, and adds five more of his own.

The course of an attack of the disease is as follows: Without any apparent exciting cause, the patient feels suddenly a slight pain, or tickling, or tension, or cool breezy sensation

¹ Archiv. für Derm. und Syphilis, 1869, 1.

² Archiv. für Derm. und Syphilis, 1869, 3.

³ Gazette des Hôpitaux, 1867.

⁴ Virch. Archiv, 46, 3, p. 328.

⁵ Note sur les Tumeurs éphémères congestive de la peau, L. Perroud. Annal. de Derm. et de Syph., 1, 3, p. 193.

upon the skin, usually of the face. In a few hours this spot is occupied by a tumor varying from the size of a nut to that of a turkey's egg. The tumor is hard, resisting, does not pit on pressure, hot, without color, or of a pale rose, indolent. The patient perceives a little heat, tension, and throbbing. There is no necessary general febrile disturbance. Several tumors may appear at once. They last from a few minutes to a few hours, at most a day, usually taking about the same time to disappear that they did to reach their height, and leaving no trace of their existence behind them. The author believes these tumors to be local congestions, and to depend upon some diathetic peculiarity or internal irritation. Uterine disturbance was present in about half the cases reported, and a return of that organ to a proper performance of its function caused the appearance of the congestive tumors to cease.

Treatment must be general, and suggests itself. No local interference is of any service.

DERMATALGIA.

Under the title of Notes on Dermatalgia,¹ Dr. Purdon represents this morbid condition to consist in a neuralgia of the skin often associated with hysteria, in which latter case it affects most frequently the left side of the body, as manifested by increased sensibility to touch. The causes are stated to be, effect of cold, rheumatism, and derangement of uterine function. Two illustrative cases are detailed. Marcé states that severe and long-continued dermatalgia is one of the first symptoms of commencing myelitis, and Purdon adds that he has observed neuralgia of the skin confined to the hands in a case of cerebrospinal meningitis.

CHROMIDROSIS.

Two well-marked cases of chromidrosis are made the text of an article in the *Dublin Quarterly* by Dr. Foot.² The article contains a tabulation of thirty-eight cases of chromidrosis, comprising all that had yet been reported, and giving particulars of color and situation in each case. This table shows the disease to be more common in woman than in man—about as eight to one; average age, twenty-two years. It occurs about twice as frequently in the unmarried as in the married female. Generally some uterine disturbance or some debility foreruns the appearance of the colored exudation. Some of the most curious and interesting of the histories are recorded in the article.

¹ Notes on Dermatalgia. H. S. Purdon, *Journal of Cutaneous Medicine*, April, 1869, p. 33.

² Two Cases of Chromidrosis, with Remarks. A. W. Foot. *Dublin Quarterly*, August, 1869, p. 68.

Chemical and microscopical examination of the coloring matter in chromidrosis shows it to be allied to the indigo compounds, like the indigo-yielding substance indican, concerning whose presence in the urine, Prout, Heller, Dubuynne, Hassal, Scheerer, Schunk, and others, have taught us so much. This indican is a glucoside of white or hydrogenized indigo (Odling's Animal Chemistry). Natural indigo, as it exists in plants, is not blue, but colorless. During its manufacture it passes through the shades of yellow and green to blue, or, by a different grade of oxidation, to red. Indican, apparently the same as that obtained from the indigo plant, exists quite largely in the urine of some of our domestic animals. It is found also, very largely, in certain pathological conditions in human urine, as is well known to every one, and it has been found also in the blood of man.

The theory, then, of the coloration in chromidrosis is as follows: Indican exists in the blood in certain unhealthy conditions. It is colorless and soluble, especially in an alkaline fluid. The indican is secreted by the sudoriparous glands, still colorless. It is now dehydrogenated, and finally oxidized (according to temperature, etc.), into brown or blue indigo. The indigo red does not seem to be formed. When the blue is very abundant and deep in color, it appears black.

The urine has been tested for coloring matter in blue palpebral chromidrosis, but without success.

FAVUS UPON ANIMALS.

Dr. Saint-Cry, in an article on favus upon the domestic animals,¹ gives an observation of the disease which he found accidentally developed upon a dog—so that now we know of three animals at least capable of taking the disease—the dog, the cat, and the mouse. The disease is very easily cured upon animals without epilation, by scraping off the crust and applying a mild parasiticide. While manipulating his animals, the author caught the disease upon one of his hands. He allowed it to develop, and it presented all the characters of a well-marked herpes circinatus, yet contained a few very minute yellow cup-shaped collections of favus matter around some of the small hairs. This “stadium herpeticum” has been often observed; Pick watched it upon his own person (Arch. f. Derm. and Sy., 1869, i., p. 64), and Kœbner believes that it always preceded favus upon the trunk. Purser noticed the same upon the arms of some women who had been playing with a cat with favus, and on sending some of the crust from

¹ Étude sur la teigne favreuse chez les animaux domestiques. F. Saint Cry. Annal. de Derm. et de Syph., 1869, iv., p. 257.

the cat, and some of the scrapings from the arms to Tilbury Fox, he received answer that the one was the achorion of Schoenlein, and the other the parasite of herpes tonsurans, the trychophyton (*Dublin Quarterly*, August, 1867, p. 66). Mr. Fox is strongly tending to the opinion of the identity of vegetable parasites in the different cutaneous affections, and has so expressed himself in a general way in the January number of the *Journal of Cutaneous Medicine*, 1869.

DISEASE OF THE HAIRS IN THE AXILLA, SUPPOSED TO BE
PARASITIC.

Dr. Paxton describes a diseased condition of the hairs of the axilla in *Wilson's Journal*, expressing his own conviction that the disease is of parasitic origin.¹

He believes it to be of common occurrence, but overlooked from the fact that the surrounding parts are not altered, and that the disease itself produces no irritation nor inconvenience. The affected hairs are lighter in color than the healthy ones around. They are swollen and knotty either through their whole length or in points, and are of a dull gelatinous appearance. The swelling is caused by a foreign matter attached to more or less of the circumference of the hair, and very adherent. One section, the circumference of the hair is seen to be frayed out, fibres passing off into the foreign matter. The structure of the mass is granular, with an obscure appearance of outward radiation. Some of the hairs are broken off near the point, or the shaft may be cracked through, the fragments being held together by the new material as by a ferule. The microscope could discover no spores, but the author nevertheless believes the new material to be a vegetable parasite. Examined in a drop of water, the mass is seen soon to throw off minute particles which exhibit rapid movements. A solution of iodine colors the foreign matter more deeply than the hair, but sulphuric acid does not give the reaction of cellulose. Heated liquor sodæ destroys the hair, yet leaves the concretions but little altered. The parasite could not be made to germinate. The author considers it to be analogous to the achorion Beigelii modified by a difference of *habitat*.

AREA CELSI.

Cases of area celsi are now frequently being reported where careful microscopic examination of the hair, the hair-bulb, and the skin, fails to discover any parasite. An article by Dr. Scherenberg, on Area Celsi (*Virch. Archiv.*, xlvii., 4, p. 493), contains two well-marked cases occurring in two children of

¹ *Journal of Cutaneous Medicine*, July, 1869, p. 133.

the same family. The examination showed disturbance in the nutrition of the hairs only. They were thinner than normal (but not brittle), pulled out easily, and had little if any bulbous expansion at the root. The epithelial sheath of the hair remained behind in the follicle. Pigment was wanting toward the root. There was no desquamation, no parasite, nor any unusual appearance of the skin.

CHANGE OF COLOR IN HAIR ON DECOMPOSITION.

Virchow's Archiv., xlv., 4, p. 502, contains an interesting little article on the change of color in the hair of a corpse on decomposition, by Dr. Hauptmann. It appears that the body of a man was exhumed on suspicion of poisoning, after having rested twenty years in the ground, and the hair, which had been dark brown during the life of the individual, was found to be red.

Prof. Sonnenschein, to whom the body was given for chemical analysis, comparing this case with others, stated that, on the decomposition of a body which has been long under-ground, dark-colored hair becomes red, and shows an acid reaction.

ACTION OF CARBOLIC ACID ON VEGETABLE PARASITES, AND ON DISEASES OF THE SKIN.

Isidor Neumann, Archiv. für Dermatologie und Syphilis. 1869, iii., p. 424.

This article details very many interesting experiments made upon animals with carbolic acid, and gives very carefully the results of *post-mortem* examinations, where death was slowly or rapidly produced. Regarding this part of the article, I need only notice here that acute anatomical changes in the liver and kidneys were pretty constantly caused—leading the author to conclude that the internal exhibition of the remedy, especially in large doses, should be very cautiously undertaken, since the evils it may cause are far greater than those it is intended to overcome. Injected subcutaneously a certain quantity acted with the intensity of three times the same amount taken by the mouth, except in the case of dogs, and the effect produced upon these animals by subcutaneous injection of a solution of the acid is curious enough to attract attention, especially as this agent is supposed to be so thoroughly preventive to the formation of pus. Subcutaneous injection was practised twice upon dogs. In neither instance was there any, the slightest, evidence of absorption, and in both a large abscess was formed at the point where the injection was made. One dog died in a few days from pyæmia, the other was killed shortly by another experiment.

In the treatment of skin-diseases, Dr. Neumann has employed carbolic acid internally in large doses, sometimes producing toxic effects, and continued sometimes more than six months. He reports eight cases of psoriasis treated. In only one, psoriasis punctata, was a cure arrived at. The others improved somewhat at first, and then remained stationary. Dr. Neumann believes that this occurs because the acid (given internally) produces no effect upon the thickened tissues underlying the scales, only affecting the hyperæmia. In psoriasis punctata the cutaneous infiltration is slight. In affections where hyperæmia is prominent, carbolic acid internally seems to be of some service in small doses, as the activity of the circulation is increased by it. Against syphilis Dr. Neumann has found it entirely ineffective. Externally employed it is of some service in scaly eruptions, and as a parasiticide. Against warts, certain forms of lupus, etc., it is useful as a caustic, for, although its action is slow, an excellent cicatrix is left behind. Upon vegetable parasites the action of a weak solution (1 to 500) is to suspend germination, but not to destroy either it or the plant, as germination is resumed on the third day after ceasing the acid. A stronger solution (1 to 300) destroys germination, which is not resumed after two weeks. Vibriones were, however, seen in abundance.

A concentrated solution destroys vibriones, dissolves the mycelium, and causes the spores to shrink.

The salts of the acid, for instance, carbolate of soda, etc., have no effect upon the plants nor upon their fructification.

On the internal use of carbolic acid against diseases of the skin and syphilis, deduced from its employment in the clinic of Prof. Hebra, Dr. Moriz Kohn (*Arch. für Derm. und Syph.*, 1869, ii., p. 219) states that in its external application carbolic acid, like all the tars, is of service against chronic hyperæmia of the *papillary* layer of the skin, joined with excessive reproduction and shedding of the epidermis, chronic inflammations, and where peripheral nervous irritation is prominent.

The doses were carried as high as 3j per diem, but just as great an effect was produced by the exhibition of six to nine grains daily, while the larger quantity produced by so much the more urinary disturbance. The action of the acid upon the skin seems to be twofold. It reduces hyperæmia, diminishes the quality of epidermis formed, and acts upon the peripheral nerves in such a way as to overcome the itching.

Report is made on the following diseases: Psoriasis, twenty-seven cases treated. Hyperæmia is reduced, scales cease to fall, but come off in one mass (sometimes during the third and fourth week), leaving healthy but discolored epidermis behind.

In some cases months passed with no improvement—nine to twelve grains daily was the greatest quantity given. (These results differ from those obtained by Neumann.)

Pityriasis rubra, one case. At the writing of the article, after seven weeks of treatment of twelve grains daily, patient's recovery was almost complete. Prurigo—disappearance first of the itching and then of the papillæ, in the majority of the cases. Pruritis, only one case treated. The relief afforded was immediate, and the remedy was discontinued after a week, without a relapse appearing. Nine grains taken daily.

Syphilis, twenty-four cases treated, including all the early forms of secondary syphilis. Results unsatisfactory.

TOXIC ZONA.

Mr. Hutchinson, in two articles upon herpes zoster, apparently caused by the internal administration of arsenic (*Medical Times and Gazette*, December 26, 1868, p. 722, and April 17, 1869, p. 407), states it as his belief that herpes zoster forms a sort of a connecting link between the exanthemata and the neuroses, and his conviction that "certain special conditions of the blood" may irritate the roots of the sensory nerve-trunks, so as to cause the peripheral irritation which gives rise to the eruption. In support of this, he speaks of a syphilitic herpes zoster where the grouping of the vesicles is clearly under the influence of nervous distribution, and which differs from ordinary herpes zoster only in being bilateral, being on other parts of the body at the same time, and lasting usually much longer than the non-specific form. The author further considers his hypothesis to be substantiated from the fact that the administration of arsenic is able, he believes, to produce zona; and he reports eight cases, where he thinks that herpes zoster was brought about by the employment of arsenic for some other complaint.

In his second article Mr. Hutchinson observes that he has been studying this subject for two or three years, and raises the question of coincidence, which is a very strong one. In regard also as to whether zona appears often as complicating other cutaneous eruptions where arsenic has not been given, he states that, among the numerous cases of skin-disease which he has seen during the last two or three years, only twice did he find zona occurring during the course of another eruption where arsenic had not been used. The diseases in these two instances were itch and eczema.

To the eight cases reported in the previous article, eight more are added where zona appeared during the use of arsenic, this drug being employed sometimes against other existing

skin-diseases, and sometimes against some other affection. The zona always ran its regular course and got well, whether the arsenic was continued or not. Two other cases of herpes are added, coming on during an arsenical course, one of herpes preputialis and one of herpes labialis. The amount of arsenic given was not large in any of the cases.

ERUPTIONS CAUSED BY BROMIDE OF POTASSIUM.

In a memorial before the Société de Médecine de Paris,¹ M. Voisin gives the result of his experience as to the cutaneous eruptions caused by the internal use of the bromide of potassium, which remedy he had been using very largely in epilepsy.

Five eruptions are mentioned :

1. Acne. This is the most constant. It appears shortly after the commencement of the use of the bromide, while the dose is about 3j. It is preceded by itching, and occupies chiefly the face and chest. Once, in a child seven years old, the acneic eruption was general, and accompanied by fever. The number of pustules is greater in proportion as the dose of the bromide is suddenly increased. Lymphatic and full-blooded patients are especially predisposed to this eruption. The season exerts no influence upon the number of pustules. Decreasing the dose of the bromide will decrease the number correspondingly, but M. Voisin succeeded in keeping the eruption down, without reducing the quantity of the bromide given, by lotions of flax-seed water and the use of diuretics, the latter with the object of diminishing the quantity of bromide eliminated by the skin.

2. The second eruption was observed by the doctor six times among ninety-six epileptics treated by the bromide, and requires a special description, since there is no other cutaneous affection to which it can be exactly likened. It consists in the formation of little tumors, which in their turn are formed by a collection of very indolent acneic pustules. These tumors are situated most frequently on the legs. They are painful to the touch, much inflamed around the base, depressed in the centre. The depressed portion is entirely insensible to pain. The tumors are excessively slow in their evolution, and discharge a matter similar to that of a boil. They heal slowly, and, when the cicatrix is over a bone, pressure upon it will produce pain for months after cicatrization is complete. These tumors coincide with acne upon the rest of the body. They occur

¹ Société de Médecine de Paris. Mémoire sur les éruptions cutanées causées par l'usage interne du bromure de potassium. Voisin, Gazette des Hôpitaux, 1868, p. 603.

most commonly in winter. Rest and poultices with cérat opiacé is the treatment suggested. An early incision does not give a good result.

3. The third form has only been observed twice by the author. It was a sort of an urticaria, possessing at the same time some of the characters of erythema nodosum. This eruption occurred only after the bromide had been held for a long time at a high dose.

4. Furuncles.

5. A sort of eczema, very moist, upon the legs, and a sort of pityriasis of the scalp.

ACUTE PEMPHIGUS FROM COPAIBA TAKEN INTERNALLY.

Hardy reports, in the *Gazette des Hôpitaux*,¹ the first case where the administration of copaiba has produced an eruption of pemphigus.

The patient, a young workman, contracted gonorrhœa, and took copaiba in capsules, at first four, then six daily. In a few days a general copaibal erythema declared itself, with the usual characters of that eruption. The urethral discharge ceased, but returned in four or five days, with the decline of the eruption.

After a time the copaiba was again resumed, in the same small doses as before, never more than six capsules daily, and was continued for fourteen days. The eruption which now appeared was a modified pemphigus, and was generalized over the whole body, commencing at the flexures of the joints. Where the skin was thin the bullæ aborted, but where it was thicker they were regularly raised and more or less lasting. The discharge from the patches deprived of their epidermis was excessive, of an offensive odor, and very viscid. A diarrhœa accompanied the exudation from the skin. The urethral discharge was inversely as that from the skin. After six weeks of emollient treatment, the pemphigus disappeared in a general desquamation. A few urethral injections dried up the discharge. Mr. Hardy considers this eruption as distinctly caused by the copaiba, and not as a coincidence. There were no troubles of digestion observed in the patient, and the whole of the copaiba taken seems to have been absorbed and to have exercised its influence upon the skin, by which it is always more or less eliminated, giving its odor to the perspiration. The article does not mention whether or not the copaibal odor was noticed in the patient's urine.

¹ Pemphigus aigu consécutif à l'administration du Copahu. Hardy, *Gazette des Hôpitaux*, 1869, xxxvii., p. 141.

DERMATITIS TOXICA.

In February, 1869, Tardieu read a paper before the French Academy, relating to the poisonous properties of aniline violet, and coralline pigments, when used as dyes for articles worn next to the skin. Three cases of a cutaneous affection of the feet from this cause had come under Tardieu's notice, and others had been reported, all from wearing red stockings dyed with coralline.

Wilson reports three cases in his journal, under the name of *Dermatitis Toxica*,¹ and gives some interesting particulars about the eruption. In each of these three cases the stockings were worn but for a short time—in one instance only for a day; but yet, in each case, the disturbance produced extended over many months, getting better or quite well, only to return again and again with renewed severity. In each of these cases the feet are reported to have been habitually moist before wearing the stockings, which peculiarity was in each case afterward lost.

The eruption manifested itself always very soon after beginning to wear the stockings, by a more or less severe inflammation, chiefly of the soles and sides of the feet, with extensive multilocular vesiculation. The pain and itching were intense. Lichenous and eczematous eruptions were also developed on other parts of the body, and particularly on the hands. The condition of the feet naturally rendered locomotion impossible, and several weeks were required in each instance for the acute symptoms to subside. After this, desquamation would set in, and then the feet would be again attacked—this condition of affairs lasting over many months. Nothing new of importance was suggested in the way of treatment. All who wear the stockings are not affected. Mr. Wilson's conclusions are, that the toxic principle of the dye is soluble in the perspiration, and absorbed; that its primary irritant action is on the tissues, its secondary on the nerves; that the eruptions on the other parts of the body must not be looked upon as caused by contact with the irritating agent, but rather as secondary reflex phenomena.

Tardieu and Roussin, in investigating the subject, obtained some of the red coloring matter by boiling the socks in alcohol. Using this substance for experimentation, they poisoned a dog, a frog, and a rabbit, by inserting it under the skin. The frog died in four, the dog in thirty-six hours, and the rabbit somewhat later. The experiments were repeated with pure coralline,

¹ "Dermatitis Toxica, from Aniline Dye." Wilson, *Journal of Cutaneous Medicine*, April, 1869, p. 44.

with the same result. The conclusions drawn from the experiments were as follows: That coralline is an irritating poison, comparable to croton-oil. Applied to the skin, it produces local inflammation with an eruption, accompanied by disturbance of the intestinal function. When given internally it causes death in the smaller animals, and produces fatty degeneration of the glandular organs, like arsenic, phosphorus, etc. The coloring matter accumulates in the lungs to such an extent, that it was afterward extracted from them, in the case of a dog, and used to dye some silk. Reextracted from the silk, it was again used for experiment. In man, the manifestations have been chiefly local, the general symptoms depending, possibly, as much upon the local inflammation as upon the action of the poison. A portion of the coloring matter is, however, probably absorbed. This is the first vegetable dye which has been discovered to be poisonous. Aniline violet will also produce local and general disturbance, but it owes this power to the arsenic which it contains, that metal being used in the preparation of the dye.

TREATMENT OF ICHTHYOSIS.

Milton¹ reports two cases of ichthyosis in children—both very severe—which were entirely relieved by external treatment, so that a stranger to the cases would not have imagined that the children had ever been affected with the disease. Of course the cure was only temporary, but a continuation of the treatment would always get the better of the deformity when it reappeared, and keep the skin in nearly a normal condition. The treatment is simple, and worthy of trial in severe cases. It consists in a daily bath in a warm solution of carbonate of soda, five and a half grains to the gallon, and an inunction upon the affected surface of an ointment, which was left on until the next bath, and whose composition was—

M. Potas. iodid.,	℥j
Ol. pedis bubuli,	
Adipis pur.,	℥ ss
M. Glycerini,	℥ j.

IMPERMEABLE DRESSINGS IN SKIN-DISEASES.

In the *Archiv. für Derm. und Syph.*, 1869, i., p. i., Prof. Hebra reports the most gratifying results in the treatment of certain skin-diseases by the employment of impermeable dressings of rubber cloth, without any other treatment. Hardy, it appears, was the originator of the idea, but his procedure

¹ "Two Cases of Ichthyosis." J. L. Milton, *Journal of Cutaneous Medicine*, April, 1869, p. 36.

has been somewhat modified by Hebra. All the dry, scaly eruptions form cases suitable for this treatment. The method is to keep the diseased surface constantly covered by some material which does not allow of evaporation, and for this purpose Hebra had whole suits of clothes made, and separate articles for enveloping any part of the body. After twelve or fourteen hours the rubber cloth was found to have collected under it a certain quantity of condensed perspiration, which gave out a strong, disagreeable odor. The dead, dry epithelium was naturally loosened and came off, leaving the skin underneath red, moist, and polished. The pain and itching were relieved by the application of the dressing. The duration of treatment is not very materially shortened by the employment of this means, but it is easy of application, and very convenient upon certain parts of the body where other local treatment is difficult. It was used in four cases of pruritus senilis, with the gratifying result of a cure in a few weeks. Suits of rubber cloth were worn at first continually, being changed or cleaned night and morning, and then worn only at night and for an hour or two by day, till the cure was complete.

TREATMENT OF PURPURA.

Dr. Bauer (*Deutsche Klin.*) adds his testimony to that of Hænoch already given, as to the efficacy of *secale cornutum* against purpura. He employs it in substance 8 to 10 grains, from one to three times daily. Of course no action is exerted upon the blood already effused, but, according to Dr. Bauer, in from one to three days, or at latest after six days, no new spots of purpura are formed, as far as his experience and observation have shown him.

TREATMENT OF PRURITUS COMPLICATING PREGNANCY.

The *Bull. Gén. de Ther.*, December, 1868, contains an observation by Dr. Léon Gros, of a certain woman who was tormented during two successive pregnancies by a pruritus of the whole cutaneous surface without eruption. Nervous spasms were brought on by the itching, and the patient's life was rendered miserable. Various treatments were tried, but without producing any effect. At length, pyrosis and a dental neuralgia were added to the already existing sufferings, and at this period smoking of tobacco was resorted to with complete and speedy success on both occasions. One cigar was smoked every night, and sleep and comfort returned.

SUBCUTANEOUS INJECTION OF ARSENIC.

Dr. Edward Lipp gives an article in the *Archiv. für Derm. und Syph.*, 1869, iii., p. 362, on the treatment of psoriasis and chronic eczema by means of the subcutaneous injection of arsenious acid. The acid was employed subcutaneously by Dr. Lipp in six cases, three times in connection with other remedies, and three times alone. These latter three cases are fully detailed in the article. The first two were cases of extensive psoriasis of long duration (one to two years), and the third a very general chronic squamous eczema of some six months' duration. In the first case 8.8 grains of arsenious acid were injected hypodermically, the treatment lasting forty-eight days. Three weeks after the cessation of the treatment, all the eruption had disappeared, but a few new spots had manifested themselves.

In the second case 4.5 grains of the acid were used in thirty-eight days. Two weeks after cessation of treatment, the old eruption had entirely disappeared from the upper part of the body, and was but slightly visible below—new spots of eruption had, however, appeared. In the third case, the treatment lasted forty-two days, and 3.3 grains were used. On the day after suspension of treatment, the eruption had almost entirely disappeared and there was no new outbreak. A watery solution was used, $\frac{1}{20}$ to $\frac{2}{5}$ of a grain of the acid was injected at a time. One-tenth of a grain is the recommended dose, with intervals of one or two days between the injections.

The place of election for making the injections was the lower half of the back. If made in the extremities, obstinate irritation may result. When made in the back, a slight burning is felt, which quickly disappears, and a mild irritation of the skin at the spot, lasting from one to three days. No exudation into the skin was caused, nor any abscess.

The eruption disappears more quickly from the upper part of the body, neck, face, and scalp, than from other parts. Outside of the disappearance of the eruption, the following phenomena were observed: The pulse was rendered more frequent (greatest frequency observed, 108). The temperature was raised in one case to 101.85° Fahrenheit. Appetite lessened, thirst increased, diuresis, feeling of constriction of the thorax, nervousness, headache, dizziness, nervous cough, tickling in the larynx, injection of the conjunctivæ. All these disturbances, except the increased frequency of the pulse, ceased upon lessening the quantity of the injection or suspending it altogether for from one to three days.

The recurrence of the eruption in the first two cases proves this treatment to be no more permanently curative than arsenic given by the mouth.

The advantages claimed for subcutaneous injection are, the certainty of the absorption of the medicament with the least disturbance to the digestive organs, the relatively small amount of the remedy needed, and the shortness of the treatment.

TEXT-BOOKS AND JOURNALS.

Among the recent text-books may be mentioned especially : *Lehrbuch der Hautkrankheiten* (Hand-book of Skin-Disease). By Isidor Neumann, 1869. A French Translation of Hebra, by Doyon, 1869. *Traité des Affections de la Peau*. E. Baudot. D'après les Doctrines de M. Bazin. [Cutaneous Affections according to the Doctrines of M. Bazin.] E. Baudot. 1869. *Skin-Diseases: their Description, Pathology, Diagnosis, and Treatment*. Second edition, Tillbury Fox. The five journals of dermatology are: *Giornale Italiano delle Malattie Veneree e delle Pelle*. Soresina. *Journal of Cutaneous Medicine and Diseases of the Skin*. Erasmus Wilson. *Archiv. für Dermatologie und Syphilis*. Auspitz. Pick. *Annales de Dermatologie et de Syphilographie*. Doyon. *New York Journal of Dermatology and Syphilis*. Henry.

Miscellaneous and Scientific Notes.

WE regret that the great amount of accumulated matter in type, on hand, compels us to omit this month the Proceedings of the Medical Society of the County of New York. We shall endeavor in our next issue to bring up the Reports to date.

WE publish this month our annual report on Dermatology, by Dr. E. L. Keyes. The report is in a different shape from that usually presented, but will, we think, be even more acceptable to our readers than previously. Next month we shall present our annual report on Ophthalmology, by Professor Noyes, whose previous reports in this JOURNAL have attracted much attention both in this country and Europe.

A CORRESPONDENT from Portland, writing under date of November 30, 1869, calls our attention to the notice of the resignation of Prof. Wm. Warren Greene, which appeared in our last number, as likely to convey an erroneous impression that the doctor is still invalided. We therefore make haste to correct this impression, although we were well aware, at the time we penned the item, that Prof. Greene had fully recovered.

We may, at the same time, extend our congratulations that the doctor, "after a year of terrible suffering, is again in the harness and at work as before."

The same correspondent informs us that a new hospital is about being established in Portland which promises to be a grand institution, and a credit to the State, as well as a means of promoting the interests of medical education. The honor of originating the enterprise, for which a charter has already been granted, is due to Dr. J. T. Gilman. Profs. Dana and Greene are among the incorporators.

Our homœopathic exchanges complain that we, of the other school, do not treat them fairly, in that we are in the habit of reporting cases where homœopathic physicians, so called, are in the habit of administering drugs in appreciable quantities—as viz., in the two cases of poisoning of infants by morphia, quoted in the last number of this JOURNAL. Such gentlemen, they claim, are neither recognized nor representative homœopathic practitioners. They are only hangers-on to their system, and sail under false colors. But what shall we say of the following, which we take from one of the leading homœopathic journals, by reason of which, we assume that the writer, Dr. Hinckley, of Buffalo, is recognized as a "regular" in their school:

Two theories were advanced, at a meeting of the Western Institute of Homœopathy, respecting the therapeutic power of attenuated medicines. One was based upon the "*Atomic Theory*," and the infinite divisibility of matter. The other upon the spiritual power, or dynamic force (if the expression is not tautological), resident in the drug but capable of being imparted to the vehicle with which the drug is attenuated, and through that brought to act upon the human organism, independent of the *substance* of the drug. There are serious objections to both of these theories to which I would like to call the attention of their exponents. The objection to the atomic theory lies in the fact of the insolubility of certain remedies that we know have great therapeutic power in the lower triturations. Take, as examples, *carbo veg.*, *silicia*, *aurum*, and other metals. Do they become soluble in alcohol at the fifth trituration? Give us the proof. Now, if these substances are insoluble in alcohol, the process of diluting is only that of separating the particles of the mass with which the process was

begun, instead of *increasing* the number, and what probability have you that you have one particle of the medicine in a dose of the two hundredth attenuation, to say nothing of the one hundred thousandth! Now, admitting the power of high dilutions (to call them "potencies" is to beg the question), we seemed forced to the conclusion that there is a drug force that can be used separate from the substance, or ponderable matter of the drug. Well (keeping one of the insolubles in mind), a certain amount of this force has been detached from the substance of the drug, and imparted to the sugar with which it was triturated, thence to the water with which the sugar was dissolved, thence to the alcohol with which the attenuations were made. To say that a force is increased by attenuation, is a contradiction in terms. It must be, therefore, development of force "dynamization," "potentization" by dilution.

It was remarked at that meeting that "we can do that with the thirtieth that we cannot with the third, and with the two hundredth that we cannot with the thirtieth," a common claim for the high attenuations. That means, either, that the higher acts in the same manner as the lower, only with greater force, or that it acts in a different manner. If the higher acts in the same manner only with greater force, is there any *limit* to the development or increase of the force of a drug? Suppose somebody should, in a lifetime, carry the dilution of a drug up ten millions of times, would not an infinitesimal globule of that attenuation, escaping from its infinitesimal phial and lying loose about the house endanger the whole household? I lately saw a phial verging toward the microscopic, filled with almost microscopic globules said to have been medicated with the one hundred and sixty thousandth dilution! Rest assured that I did not take out the cork so as to get a smell of it, for I suppose that the pathogenetic power bears some relation to the therapeutic power.

But if the high dilution acts in a different manner from the low, do we not want separate provings for the third, thirtieth, two hundredth, two thousandth, and so on, and also for each of the intermediate dilutions? I am not attempting, neither have I the least desire to ridicule high dilutions, but both of these theories seem to lead *ad absurdum*. I have heard and read so many reports of remarkable cures with high attenuations wherein *post hoc* was taken for granted as *propter hoc*, that my faith is very much lessened of late, in all such reports.—*American Homœopathic Observer*.

A NEW LESION IN BRIGHT'S DISEASE.—Gouverneur M. Smith, M. D., Attending Physician to the New York Hospital, calls attention to *deafness*, which is sometimes developed during

the course of Bright's disease. This symptom, when transient and accompanying a lethargic condition of the patient, has been properly attributed to uræmia. The same symptom, however, in conjunction with others, aural in character, may be permanent, in which case he ascribes their occurrence to a peculiar *lesion of the ear*; a lesion peculiar in that it holds a relationship to the nephritic disorder, and is not, so to speak, of accidental origin.

Is it not proper to view the association of the *aural and nephritic lesions* in the same light as we regard the occasional coexistence of the ocular and renal?

He would ask the attention of those surgeons who are making aural affections a special study, to the opinion just expressed in reference to a Brightian lesion of the ear. It would seem desirable, when treating patients affected with obscure auditory diseases, to examine their urine both chemically and microscopically. A latent Bright's disease may thus be detected, and the cause of the aural malady may thus be explained.—*Medical Record*.

PROFESSOR JOY, in the *Journal of Applied Chemistry*, says that aluminum, which a few years since commanded a price of \$200 per pound, and difficult to obtain at that, can now be procured in open market for seventy cents per pound, with a probability that it will soon be afforded for much less than this figure. It is coming very largely into use, as an ingredient of bronze in the manufacture of various articles of hardware, for which its remarkable strength and lightness especially adapt it. Its appearance, too, is very attractive.

INFANT MORTALITY AND FASHIONABLE DRESSING.—Dr. E. M. SNOW, Superintendent of Health, of the city of Providence, thus comments on the absurd style of dressing infants:

The large loss of infant life in our American cities is usually ascribed to the effects of impure air, and this is undoubtedly true to some extent, especially in the summer season. But the loss of infant life is not confined to the summer season nor to summer complaints, so called. The loss goes on in cold weather as well as warm, and lung fever, convulsions, congestion of the brain, and of the lungs, etc., destroy far more children than cholera infantum and diarrhœa.

The truth is, the chief cause of infantile mortality is not more the weather, or foul air, than the ignorance and false

pride of the mothers. Children are killed by the manner in which they are dressed, and by the food that is given them, as much as by any other causes. Infants of the most tender age, in our changeable and rough climate, are left with bare arms and legs, and with low-neck dresses. The mothers, in the same dress, would shiver and suffer with cold, and would expect a fit of sickness as the result of their culpable carelessness. And yet the mothers could endure such treatment with far less danger to health and life than their tender infants.

A moment's reflection will indicate the effects of this mode of dressing, or want of dressing, on the child. The moment the cold air strikes the bare arms and legs of the child, the blood is driven from these extremities to the internal and more vital organs of the body. The result is congestion, to a greater or less extent, of these organs. In warm weather, the effect will be congestion of the bowels, causing diarrhœa, dysentery, or cholera infantum. We think that this mode of dressing must be reckoned as one of the most prominent causes of summer complaints, so called. In colder weather, congestion and inflammation of the lungs, congestion and inflammation of the brain, convulsions, etc., will result. At all seasons, congestion, more or less, is caused, the definite effects depending upon the constitution of the child, the weather, and various other circumstances.

It is painful, extremely so, to any one who reflects upon the subject, to see children thus decked like victims for sacrifice, to gratify the insane pride of foolish mothers. Our most earnest advice to all mothers is to dress the legs and arms of their children warmly, at all events. It would be infinitely less dangerous to life and health to leave their bodies uncovered, than to leave their arms and legs bare as is the common custom.

ANECDOTE OF DR. JENNER.—The late discoverer of vaccination, having discontinued his professional visits to a patient on account of her improved condition, sent a couple of ducks to the mother of the convalescent lady, accompanying the present with the following note :

“I've dispatched, my dear madam, this scrap of a letter,
To say that Miss Lucy is very much better :
A regular doctor no longer she lacks,
And therefore I've sent her a couple of quacks.”

The lady addressed returned thanks with this :

“Yes, 'twas polite, truly, my very good friend,
Thus ‘a couple of quacks’ to your patient to send ;
Since there's nothing so likely as ‘quacks,’ it is plain,
To make work for a ‘regular’ doctor again.”

—*Medical Record*.

THE BLACK LIST OF THE PROFESSION.—The *Lancet* of October 30th contains, under the above heading, a list of the names of twenty-two physicians which, by order of the General Medical Council of England, have been stricken from the *Medical Register*. The reason in each case is stated. The Council has recommended that any person whose name has once been removed from the *Register* shall not be examined for any new qualification unless consent is obtained from the Council. When will this country be able thus to uphold the dignity and purity of the medical profession?

ADVICE TO STUDENTS.—The following extract from Sir Henry Thompson's introductory lecture at the University College, London, will apply admirably to our own beginners in medical studies, though the advice may sound unfamiliar in a country where the shortest route to the doctorate is by many apparently supposed to be the best:

And I advise you never to attend more than three lectures a day at the college. I doubt whether you can work profitably more than two, especially if you are a "first-year's man," and one is anatomy—especially if you are a "third-year's man," and ought to be much at the bedside. Anatomy, no doubt, is a tremendous subject. It must be done now. If its professor tells you it is the one thing needful, I confess I dare not gainsay him. And it must be done in the early part of your career. You will go to the dissecting-room with much less zest after you have frequented the romantic regions of the hospital. I advise the first-year's man, then, in making his programme, never to miss an anatomy lecture on any consideration whatever—no book can take its place—and to dissect three hours daily when his time arrives: all this to be done with the fullest exercise of the attention. Physiology and chemistry, if not done before, come next in order. You see the morning and afternoon are thus provided for. You will take notes of each of these—in plain hand, with such little abbreviations as you make for yourself, but so that you can easily read them afterward, leaving a broad margin for filling in facts missed and inquiries to be answered. Cultivate the art of note-taking, and excel in it; also of rapid, effective sketching, if you can; only do not be fascinated by this too much, and spend time in making pictures, deluding yourself into the belief that such elegant trifling is hard anatomical work, to which there is no such easy or royal road. Reading in the evening is a matter of course; but I think

three hours of it (always understand I mean absolutely close attention) ample. I do not believe in the many hours' reading which I used to hear some of my fellow-students talk of. I never had reason to think much of the men who said they could work sixteen hours of the twenty-four, nor of wet cloths round a man's temples, nor of nocturnal green tea.

Touching tea, I don't think it out of place to say a word about meals. And for this reason: as a rule, your main digestion and your hardest reading should not take place together. A fairly substantial breakfast, say at eight; college work from about nine to one. Then don't take the heavy meal of the day; no man should do this who has three hours' real labor to follow immediately. You can't do Ellis's *Anatomy* justice with a stomach full of beefsteak and its accompanying modicum of stimulant. I have seen, after the early dining hour, in the dissecting-room, men, red-faced and heavy with repletion, vainly trying to master a head and neck; heartless and dispirited in the attempt to follow our professor's clear but unrelenting demands on their attention. By all means, then, take a little animal food if you need it, or some lighter dish, and go with a just satisfied stomach and a clear brain to your work: and, when you have had three honest hours of labor, I will grant you have earned an hour of relaxation—bodily exercise, say, and a moderately good dinner to follow it: a cheerful and quiet half-hour after, a cup of tea, and then to the evening's work.—*Lancet*, October 9, 1869.

HYGIENIC PRECEPTS.—Mr. Catlin closes his valuable little book, which he has published under the taking title of "Shut your Mouth," with the following: "And if I were to endeavor to bequeath to posterity the most important motto which human language can convey, it should be in three words, *Shut—your—mouth.*"

Whereto a writer in the *Herald of Health*, in an article on the impropriety of taking drink during meals, adds that though his hygiene may be secondary, it certainly is auxiliary to that inculcated by Mr. Catlin, and his motto with corresponding brevity would be, *Chew—your—food.*

FARADAY ON HUMAN CREDULITY.—I have not been at work except in turning the tables upon the table-turners. Nor should I have done that, but that so many inquiries poured in upon me that I thought it better to stop the inpouring flood by letting all know at once what my views and feelings were.

What a weak, credulous, incredulous, unbelieving, superstitious, bold, frightened—what a ridiculous world ours is as far as concerns the mind of man! How full of inconsistencies, contradictions, and absurdities it is! I declare that, taking the average of many minds that have recently come before me (and apart from that spirit which God has placed in each), and accepting for a moment that average as a standard, I should far prefer the obedience, affections, and instinct of a dog before it. Do not whisper this, however, to others. There is One above who worketh in all things, and who governs even in the midst of that misrule to which the tendencies and powers of men are so easily perverted.—*From a Letter to Schönbein*, June, 1853.

A NEW HOSPITAL FOR DISEASES OF THE EYE AND EAR.—The Board of Trustees of the “New York Ophthalmic and Aural Institute” have recently held their first semi-annual meeting, and received the report of Dr. Knapp, the surgeon in charge. The report was most satisfactory, and indicates that the institution is a decided working success. A splendid opportunity is here offered for students to avail themselves of special instruction in diseases of the eye and ear, under one of the ablest teachers of the country, for we may now claim Dr. Knapp as one of ourselves. The institute is located in East Twelfth Street, near Broadway.

A FREE DISPENSARY for the treatment of Diseases of the Skin has been established at 460 Fourth Avenue, in this city, by the efforts of Dr. H. G. Piffard, who is the attending surgeon.

AN OBSTACLE TO LONGEVITY.—At the recent meeting of the British Association for the Advancement of Science, Sir Duncan Gibb read a paper on “An Obstacle to Human Longevity beyond Seventy Years.” He drew attention to the position of the epiglottis, and said that in five thousand healthy people of all ages, and in eleven per cent., it was found to be drooping or pendent, in place of being vertical. He had discovered, he said, that, in all persons over seventy, its position was vertical, without a single exception—a circumstance of the highest importance bearing upon the attainment of old age among Europeans. In a number of instances where the age varied from seventy to ninety-five, in all was this cartilage vertical. Many of these he cited as examples, such as the well-

known statesmen Lord Palmerston, Lord Lyndhurst, Lord Campbell, and Lord Brougham. He also gave instances among old ladies still alive, at ages from seventy-six to ninety-two, whose epiglottis was vertical. But the most remarkable was that of a gentleman, still alive, one hundred and two years old, in whom it occupied the same position. He summed up his views in the following conclusions: 1. As a rule, persons with a pendent epiglottis do not attain a longevity beyond seventy. Possibly a few may overstep it, but such examples are exceptional. 2. With pendency of the epiglottis life verges to a close at or about seventy, and the limit of old age is reached. 3. A vertical epiglottis, on the other hand, allows the attainment of fourscore years and upward, all other things being equal, and affords the best chance of reaching the extremest limit of longevity. 4. Lastly, pendency of the epiglottis is an obstacle to longevity—certainly beyond the age of seventy years—and it is a peculiarity that occurs in eleven per cent. of all ages among Europeans.

THE alienists have a new source of causation in insanity, as appears by a paper read at the annual meeting of the Psychological Association at York, by Dr. J. T. Sabben, wherein four cases of insanity are detailed, in which “ritualism” seems to have been the exciting cause of the disease. The author makes the following conclusions:

1. That ritualism appears so entirely to engross the attention of the individual, that there is little or no desire to dwell upon matters beyond the bounds of its own bearing. The train of thought is naturally unaltered, laying the first stone toward disease.

2. The length and manner of conducting the services, and the time spent in public and private prayer (occupying in some cases nearly the whole day), combined with the most rigid rules for fasting, can scarcely fail to destroy the strongest constitution, both physically and mentally.

3. That it is the younger members of society, their intellects being the most sensitive to impressions, who become its victims.

4. Where there is an hereditary tendency to insanity, or where mental deficiency exists, the individual is likely to fall a prey.

A SIMPLE REMEDY FOR THE WHOOPING-COUGH.—Dr. Howard Sargent, of this city, writes us a note, saying that for eight or ten years past he has used, as a remedy for whooping-cough, a tea made from red-clover blossoms. He remarks: “It is so

simple that many would not give it a second thought. I can say with truth, that I never knew it fail. I generally expect a cure in ten days. Four years ago I had children in three families sick at the same time: they were all well in ten, twelve, or fourteen days. There are some care and art necessary in making the tea. I select and cure the blossoms myself, and take of the best blossoms about two ounces to a pint of boiling water, steep for four hours, and give a wineglassful occasionally during the day. Should it operate on the bowels, no harm is done; the dose, in that case, may be diminished. I ask physicians to try it before they reject it. I sometimes add a little honey, to make it more palatable."—*Boston Journal of Chemistry*.

THE AVERAGE WEIGHT AND HEIGHT OF MAN.—Dr. Nathan Allen, of Lowell, Mass., in a letter to the *Boston Journal of Chemistry*, says:

Quetelet, who has devoted more attention to this subject than any other writer, gives the average weight of an adult male 136.993 pounds, and the average height 5.333 feet.

Dr. Gould, who examined a large number of students in the junior and senior classes at Harvard University and Yale College, together with some members of the professional schools, reports their average height 5.666 feet, and average weight 139.700 pounds. A. Maclaven, who has the charge of the gymnasium connected with the Oxford University, England, reports of the first one hundred names on his book, as they arrived at the university, their average height 5.825 feet, and average weight 132.970 pounds.

From the vital statistics of all the members of Amherst College from 1861 to 1869—making over 600 different students—their average weight was found to be 139.485 pounds, and average height 5.651 feet.

CONTUSIONS AND WOUNDS OF THE ABDOMEN.—Mr. Le Gros Clark, in his lectures on the Principles of Surgical Diagnosis, now being published in the *British Medical Journal*, says:

In reviewing the observations which I have made on abdominal contusions and parietal wounds, they appear to me to justify the following conclusions:

1. Shock of the most profound character is often the consequence of simple contusion of the abdomen; and the intensity of the symptoms of collapse is no standard by which the nature of the injury can be determined.

2. The continuance of this state of collapse for two or three

days is not necessarily conclusive as to the existence or otherwise of organic lesion.

3. Severe localized pain, and even general and continued abdominal tenderness, are not to be accepted as proof of organic injury, and are quite consistent with ultimate and even with early recovery.

4. Tympanitis and constipation, from temporary paralysis of the muscular coat of the bowel, are the consequence of shock or concussion of the cyclo-ganglionic nerve-centres.

5. Vomiting generally follows the severer forms of contusion of the abdomen, without reference to the part struck: it is sometimes persistent, but it is not a constant symptom.

6. Retention of urine is a common accompaniment of these injuries; and is usually attended by more or less insensibility to the presence of urine in the bladder.

7. Internal hæmorrhage, as a complicating circumstance, may occur in these injuries, without its presence being ascertained from the early symptoms: but a state of syncope as distinguished from shock, especially if accompanied with local pain and swelling, and dulness on percussion, may be regarded as highly probable evidence that internal hæmorrhage has occurred.

8. Penetrating wounds, especially with blunt implements or missiles, do not necessarily involve textural lesion of any viscus; but they are often fatal, nevertheless; primarily from shock or hæmorrhage, or the two combined, or secondarily from peritonitis.

THE USE OF LEAD WATER-PIPES.—The popularization of knowledge on matters which have hitherto been almost exclusively confined to the medical profession is now recognized as a true way of advancing man's material interests and condition; and when this work is properly done, without that flourish of trumpets which is sometimes indulged in by the authors, no one can question either the propriety or utility of such a course. This thought is suggested by an admirable paper by Dr. C. S. Rodman, of Waterbury, Conn., on the subject which heads this notice. The paper was read before the Scientific Club of that place, and published in the local newspaper—a copy of which Dr. R. has kindly forwarded to us. Physicians have it in their power to advance the education and serve the interests of their communities by such work.

In the paper referred to, the following symptoms of lead-

poisoning were enumerated, some or all of which may be considered as the forerunners of serious disease :

1. A blue discoloration of the gums at their junction with the teeth. This was observed about the same time by Tanquerel, by Dr. Schilbach, of Neustadt, and by Dr. Brinton, of London. The discovery of this mark has proved a blessing to thousands. When present it is positive evidence of the poison ; it is not, however, developed in every case. M. Brachet (Paris, 1850) states that it is almost always present in patients poisoned by inhalation.

2. A metallic taste and fetid breath. Observed also in slow poisoning from other metals, as mercury and copper.

3. Lead-jaundice. Sometimes the complexion assumes an earthen hue ; sometimes it becomes transparent and waxy, presenting an appearance of excessive delicacy.

Emaciation is an occasional phenomenon. These primary effects rarely coexist.

The diseases likely to follow are :

1. Colic, or neuralgia, chiefly abdominal. It is common, and well known as lead or painter's colic.

2. "Arthralgia," or neuralgia of the limbs. These are anomalous pains, chiefly in the limbs, and without redness or swelling. The cause being overlooked, rheumatism is generally assigned as the explanation. In true rheumatism the joints are most involved. In ordinary neuralgia, the pain chiefly follows the nerve-trunks. In this affection the pain is in the finer branches of nerves, distributed to the muscles.

3. Paralysis, or lead-palsy. Any muscles of the body may be involved. The arms, wrists, and fingers, are oftenest weakened. Paralysis is usually only partial. Wristdrop is characteristic. Amaurosis, or paralysis of the retina, deafness, and loss of voice, are occasioned.

4. Cerebral affections. The most frequent of these are convulsions ; they are usually epileptic.

In view of these facts, there cannot be two opinions as to the impropriety of using lead pipes for water when their use can be avoided, and pipes are now manufactured and sold which insulate the lead from the water by a lining of block-tin, a harmless material, durable, and not very expensive.

INFANT MORTALITY.—The last number of the *Journal de la Société Statistique* contains the following ratios of deaths of children under one year of age to every 100 live births in European states: Denmark, 9.32; Norway, 10.33; Holland, 11.37; Scotland, 11.91; Hanover, 13.99; Sweden, 14.35; England, 15.39; Belgium, 15.53; Austria, 17.03; Spain, 17.07; France, 17.25; Prussia, 20.07; Saxony, 22.55; Italy, 22.85; Russia, 26.81; Bavaria, 31.03.

DEATH FROM MRS. WINSLOW'S SOOTHING SYRUP.—In the JOURNAL for November, 1866, we reported the death of an infant from the use of this nostrum, and have now to record another. A correspondent of the *California Medical Gazette* describes the case: The infant was six months old, and had taken two doses, of a teaspoonful each, within ten hours. An analysis of the syrup remaining, and the phial, showed that it contained very nearly one grain of morphine and the other alkaloids of opium to the ounce of syrup. At the Infants' Hospital, of this city, where an average of about four children are received daily, we have seen many cases of infants who came into the hospital stupefied with this same soothing syrup. Physicians should discountenance the use of such a dangerous preparation, and should spread among their patients a knowledge of its injurious effects.

DEATH FROM CHLOROFORM.—A death from chloroform is reported in the *Western Mail*, a Cardiff paper. A boy, aged twelve, employed in the Cwm Neol coal-works, was injured on August 22d by being knocked down and run over by a tram-train. He was attended by Mr. Devenall, who, in his evidence, said that he had been three years assistant to Mr. D. Davies, of Aberdare, but had no legal qualification. After he had attended the boy for some weeks, Mr. Devenall for the first time found that he had dislocation of the hip. The boy was examined by Mr. Davies, who resolved on attempting reduction. Chloroform was given on a handkerchief, in doses of twenty or thirty drops at a time. The operators had been pulling at the ropes, when it was noticed that the pulse was failing; and the boy died immediately. He had been under the influence of the chloroform about twenty minutes, and two drachms had been given. As far as regards the chloroform, no blame appears to lie with any one concerned in the administration.—*The Druggist*.

DEATH FROM CHLOROFORM.—Dr. T. D. Fitch, Surgeon to the Cook County (Illinois) Hospital, reported at a meeting of the Chicago Medical Society, April, 1869, the following case, which had, until now, escaped our observation:

The patient was an adult, native of Sweden, and a laborer. Several months since he suffered a severe injury of his foot and ankle, by a wagon-wheel passing over it. The injury

had resulted in extensive destruction of soft parts by suppuration, and caries of the bones of the ankle.

He was admitted to the hospital only a few days since; and a consultation of the surgeons of the institution resulted in the decision that amputation was necessary. The patient had been kept on good diet and tonics during the short time he had been in the hospital, and had taken a glass of wine immediately before entering the operating-room. No disease had been detected in the organs of respiration or circulation; and the patient was himself anxious to have the operation performed. The chloroform was administered on a napkin, held over the nose and mouth, not so close as to prevent the free access of atmospheric air.

When the inhalation had progressed from one to two minutes, and ten or twelve inspirations had been taken, an unusual sound was noticed, and the napkin immediately removed. A slight tremor of rigidity or spasm passed over the muscular system; three or four slight efforts at inspiration took place at long intervals, and then ceased entirely, with complete muscular relaxation. The heart, however, continued to beat feebly for more than half an hour after the respiration ceased. The most strenuous efforts were made to revive the patient by artificial respiration, and otherwise, for more than one hour. The account of Dr. Fitch was corroborated by Drs. Bevan and Bogue, who were present and assisted in the efforts to restore the patient.

A minute and careful *post mortem* was made the following day, but no disease of the organs of circulation or respiration was found, and no congestion or even fulness of the vessels of the brain.—*Chicago Medical Examiner*.

NEW YORK, November 1, 1869.

MY DEAR DOCTOR :

I am informed to-day, on reliable testimony, that a woman died from the administration of chloroform, on the 26th or 27th of October last, at Cora, Crawford County, Pennsylvania. She had taken chloroform, administered by a dentist, to have some teeth extracted.

As it is doubtful whether this case will be given to the public, and as I know you are seeking light on this subject, I send the facts to you as I have received them. I know nothing more of the case, not even the names of the parties.

Very truly yours,

FRANK H. HAMILTON.

E. S. Dunster, M. D.

DEATH FROM CHLOROFORM.—We continue our sad record by quoting from the *Lancet* the following case, which occurred in the practice of Dr. J. A. Ross, of the North Staffordshire Infirmary :

It became necessary to perform castration on Alfred B—, a miner, aged fifty, who was accordingly admitted into the hospital. He had always been in good health except for some weeks, when he was affected, so far as I could learn, with melancholia, and was an inmate of a lunatic asylum. This was, I believe, some years ago, and since then he had complained but little, except of occasional pain in the head and tinnitus aurium.

At 3 p. m. on Saturday, September 11th, I proceeded to administer chloroform to this patient, using for the purpose the best Scotch chloroform, and employing as an inhaler a piece of lint folded once and made into the cone or Phrygian-cap shape. I believe this to be the safest mode of administering the drug, as the loose texture of the material and the shape are both calculated to allow of the admixture of a large proportion of air. There were present at the time two honorary surgeons and an honorary medical officer, the latter of whom kept himself informed of the state of the patient's pulse, having his finger on it during the whole time. When I had administered the first dose, which consisted of about twenty drops, I proceeded to administer the second one, but, as I was about to apply it to the patient, I was warned to desist, as his pulse had suddenly ceased. In an instant all appliances were brought into use for the purpose of restoring the patient—namely, ammonia, electricity, and Dr. Silvester's method of inducing artificial respiration, the tongue being drawn well forward. These measures were persevered in for one hour, but without effect. The great efficacy of Dr. Silvester's admirable method was patent to all; large volumes of air entered and were expelled from the lungs. Phlebotomy was also performed at the bend of the elbow, and from the wound there flowed, by the aid of friction made continuously in the same direction (from the hand to the elbow), one ounce of intensely dark-red blood. Before the efforts to restore life were given up, hypostatic congestion set in along the back and sides, and the cutaneous surface of the legs became mottled.

The autopsy was made on Monday, the 13th, when the following appearances were found: On proceeding to examine the head, fluid black blood flowed from the preliminary incision: the same flowed from the vessels of the brain. The dura mater was adherent to the calvaria; the pia mater and arachnoid were of an opaque white color, especially at the

base of the brain, and a small quantity of thick sero-purulent matter escaped from the middle subarachnoid space when it was opened. The contents of the cranium otherwise appeared normal. The heart was a little larger than usual, and flabby, being invested with a little more fat than is generally found; it contained a small quantity of fluid blood of the same dark color in the chambers, and the substance of the walls also was dark red. The visceral and parietal layers of the pleuræ were connected, but not closely, for the adhesions were sufficiently long to admit of extensive motion of the organs. The other viscera were normal.

Reviewing all the *ante-* and *post-mortem* facts connected with the case, I am inclined to think that no organic disease played any important part with regard to its unfortunate termination. True, there were morbid appearances found on the brain; but I remember well giving chloroform to a woman who had cancerous deposits in almost every organ of the body, and a malignant tumor on the posterior part of the brain, and yet this woman bore well the administration of the anæsthetic during a tedious operation, but died a few days afterward. Next, the heart was found rather large and flabby, but I believe that this state was not the result of disease, but simply due to the rigor mortis being either totally absent, or setting in imperfectly and remaining but for a short time. If we accept the theory that rigor mortis is due to coagulation of the blood, which is a very tenable one, we shall be able to account for the flabby condition of the heart. 1. There was no rigor mortis at any time when I saw the dead body, and I visited it frequently, so that, if it occurred, it must have been of very short duration. 2. Fluid purple blood flowed from every cut. 3. Some blood, which was also purple, ran out of the heart as it was being taken out, leaving the heart completely empty. 4. The cardiac walls themselves were very dark. 5. The fluid which escaped from the lungs also was of the same color. Toxicologists maintain that chloroform produces paralysis of the internal organs by acting on the nerve-centres through the blood; this being the case, the heart ceases to contract, and remains in the dilated, soft condition, no rigor mortis setting in with sufficient power to cause its contraction. Indeed, we should expect beforehand that there would be little or no coagulation after death from chloroform, as oxygen is the chief agent in promoting the action of the fibrino-genetic and fibrino-plastic substances one upon the other. And it is no doubt this deficient supply of oxygen which causes the temperature of the body under chloroform to be lower than normal; for, the oxygen being in part absent, the chemical union between

the carbon, the residue of the used-up tissues, and the oxygen, cannot take place so as to form carbonic acid; therefore one of the sources of heat is gone.

THREATENED DEATH FROM CHLOROFORM.—On Saturday, at King's College Hospital, there was a very narrow escape from death by chloroform. The patient was a healthy man, aged thirty, who was to undergo the operation of removal of a tumor from the front of the leg by Mr. Henry Smith. As the inhalation proceeded, the patient began to struggle so violently, that it required the assistance of several dressers to prevent him from throwing himself from the table. He, however, became insensible to pain; and Mr. Smith proceeded with the dissection, but was compelled to desist, in consequence of the violent movements of the patient. The chloroform was now entirely suspended; but, notwithstanding this, the man's face became suddenly livid, then changed to a deep purple color, respiration and pulse completely stopped, and death had apparently taken place. Mr. Smith at once thrust his finger to the top of the windpipe, got forward the tongue, and assistants commenced artificial respiration by the movements recommended by Dr. Silvester. The naked chest was vigorously flipped with a wet towel. For a brief period these measures seemed to produce no effect; but after a short time there was a slight improvement in the complexion, when the efforts were redoubled, and all were delighted to find the apparently dead man slowly respiring. In two or three minutes more, the man had so far recovered that Mr. Smith was able to complete the operation, although, of course, no more chloroform was exhibited. In some remarks after the operation, Mr. Smith referred to the narrow escape of the patient, and said it illustrated the danger which will occasionally attend chloroform, however carefully given, more especially in those cases where its exhibition is followed by a great amount of struggling. It was necessary to be particularly careful with it when this occurred; he had seen other narrow escapes exactly under the same circumstances.—*British Medical Journal*.

WE have now also to record the first death from the administration of bichloride of methylene. This anæsthetic has been used, according to Dr. Richardson, in some six or seven thousand cases, with only this fatal result, and the case itself was of such a peculiar nature that, to quote the words of the *Lancet*,

It would be scientifically vicious to condemn the bichloride of methylene as an unsafe anæsthetic, or one to be avoided.

True, it belongs to a dangerous family, the chlorides, as Dr. Richardson observed; but the circumstances attending its administration in this case were altogether against its having fair play, so to speak. The man was really at death's door; one nostril was useless; he was placed, in a semi-fainting state, in the upright position, and his respiratory muscles were hampered in their action by bandages; while the amount of the anæsthetic given was comparatively small. The elements of danger in the exhibition of the anæsthetic were in the man himself, not so much in the methylene.

The patient was a man thirty-nine years of age, an inmate of Charing Cross Hospital, the subject of a malignant disease of the left antrum extending upward, displacing the malar bone, and protruding from the nostril. The disease, which had run a very rapid course, had been accompanied by several attacks of smart hæmorrhage. On the ground of the unfavorable nature of the case, and especially the exhausted condition of the patient, Mr. Canton at first refused to operate for the removal of the cancerous mass; but, as the patient himself and his friends pertinaciously urged surgical interference, and a day's delay would have lessened any chance of success that may have existed, Mr. Canton subsequently complied with their request. When brought into the operating theatre, the patient looked somewhat pale and anxious. The pulse, however, was a fair medium one, and not frequent. Of course, the position in which he was placed was the sitting one. One drachm (by measure) of the bichloride of methylene was first administered, slowly and cautiously, during about three minutes, by Mr. Peter Marshall, who watched the breathing and the right pulse, the house-surgeon having his finger on the left. The methylene having been exhausted, half a drachm was then added, the pupils at the time being slightly dilated. On making the patient inhale the fresh quantity of the anæsthetic, his countenance changed, but not suddenly. The attention of the surgeon was at once called to the patient's state, with the view of ascertaining whether the anæsthesia produced was sufficient, when the patient's head fell back, and the pulse became feeble, and then ceased. There was no accompanying stertor, nor lividity of countenance. The man was removed from the chair, and laid in the horizontal position; artificial respiration and galvanism were employed, but without avail.

EXPERIMENTS WITH CHLORAL.—M. Demarquay, whose recent experiments on chloral I mentioned in my last letter but one, has continued his researches, and last week he informed the Academy of Sciences of the novel results he has obtained. He has been trying chloral, administered internally, in combi-

nation with syrup of balsam of tolu. The compound was administered to twenty patients in doses varying from one to five grammes of chloral. M. Demarquay summed up his communication as follows :

1. Chloral has a well-marked hypnotic action, especially in weak and debilitated patients.

2. The duration of its action is in direct proportion with the feebleness of the patients.

3. The sleep which it brings on is generally calm, and is accompanied by restlessness only when the patients are suffering from intense pain. This induces one to employ it in diseases where it is desired especially to induce sleep and muscular resolution.

4. Lastly, this remedy may be employed in high doses, since no ill effects result from it when administered in doses of from one to five grammes.—*Paris Cor. of Lancet*, October 9, 1869.

MOVABLE KIDNEY.—Dr. Sawyer, resident physician of Queen's Hospital, Birmingham, reports (*British Medical Journal*, August 21, 1869) two cases of movable kidney. After describing the cases, which presented nothing very unusual in the physical signs or the rational symptoms, he remarks :

We have here two well-marked examples of movable kidney. In both, the subjects are women, and the affection is on the right side. Females are more liable to this displacement than men, probably in virtue of their greater proneness to atony and laxity of tissue, and because they are more often the subjects of rapid emaciation, which has been reasonably thought to favor displacement, by the diminution of the fatty cushion, which helps to retain the organ *in situ*. The right kidney is more frequently displaced than the left, probably in consequence of the pressure of the liver, and the greater length of the renal vessels on the right side ; moreover, the ascending colon is not so closely applied to the kidney on the right side as the descending colon is on the left.

In the first case, the disorder occurred after parturition, but there is no history of undue or too early exertion. In the second case, the displacement was clearly traced to a blow on the right loin. Neither patient had been guilty of tight lacing. Both women were delicate, prone to hysteria, with impaired nutrition, and lax fibre. There was no history in either of disorder of the renal function, or of micturition. The movable organ was sensitive to pressure ; there were backache and uneasy feelings in the belly. E. R. suffered a good deal, for some days after admission, from sickness and vomiting. Both

patients had very pronounced pulsation of the abdominal aorta; and in E. R. this vessel was drawn to the front of the spine, and slightly to the right of the median line. I attribute this to the traction through its artery exerted by the displaced and movable right kidney.

In cases of displaced kidney, several authors (Trousseau, Flint, Da Costa, and Roberts) assert that they are able to confirm the diagnosis by proving the absence of the organ from its normal position on the corresponding side. I cannot say that in these examples I have been equally fortunate; for, after careful examination by palpation and percussion, I could not detect such difference as would enable me to speak confidently as to the absence of the kidney on the right side.

When the organs are in their normal position, percussion in the back is usually more resonant over the left kidney than over the right—a difference readily explained by the closer apposition of the descending colon to the left than of the ascending colon to the right kidney. In E. R., the dulness on the right side remained the same when the kidney was displaced and carefully retained by the hand in its abnormal position, as when it was *in situ*; in fact, the percussion and appearance of the loin were quite unaffected by the presence or absence of the kidney.

Much relief was obtained in both cases from tonic treatment, rest, and the use of an abdominal bandage.

ON THE ALCOHOLIC COMPOUND TERMED PUNCH, by John T-and-ll, LL. D., F. R. S.—The following extract from an article with the above title, in *Exeter Change*, is a capital imitation of Professor Tyndall's style:

Experiment has proved that the juice of three or four lemons, and three-quarters of a pound of loaf-sugar dissolved in about three pints of boiling water, give saporous waves which strike the palate at such intervals, that the thrilling acidity of the lemon-juice and the cloying sweetness of the sugar are no longer distinguishable. We have, in fact, a harmony of soporific notes. The pitch, however, is too low; and to heighten it we infuse in the boiling water the fragrant yellow rind of one lemon. Here we might pause, if the soul of man craved no higher result than lemonade. But, to obtain the culminating saporosity of punch, we must dash into the bowl at least a pint of rum, and nearly the same volume of brandy. The molecules of alcohol, sugar, and citric acid collide, and an entirely new series of vibrations is produced—tremors to which the dullest palate is attuned.

In punch, then, we have rhythm within rhythm, and all

that philosophy can do is to take kindly to its subtle harmonies. It will depend, in some measure, upon previous habits, whether the punch when mixed will be taken in excess or in moderation. It may become a dangerous ally of gravity and bring a sentient being to the gutter. But, on the other hand, it may become the potent inner stimulus of a noble outward life.

ANECDOTE OF LISTON.—Mr. J. F. Clarke, who contributed to the *Medical Times and Gazette* the interesting notice of Mr. Keate, a portion of which we published in the October number of the JOURNAL, has also furnished to that paper a lively sketch of some passages in the life of Mr. Liston. The first paper, we may add, has elicited from some quarters quite unpleasant and unfavorable criticism, on account of what is deemed an almost impertinent inquiry into the personal relations of the subject of the paper:

Liston, for some years after his settling in London, was really a needy man. He had, moreover, to contend with a majority of his colleagues, who lost no opportunity of worrying and depreciating him. I am glad to have this opportunity of referring to the two most prominent instances in his career in which he laid himself open to censure, and, I think, justly so. After a lapse of upward of thirty years, the profession will look upon these cases without passion or prejudice. It was not so at the time, however. He was then "gibbeted" and reviled by his enemies and censured by his friends. In the summer of 1836, a poor girl, of the name of Sarah Thomas, applied for relief at the hospital. She was suffering from a formidable tumor of the upper jaw. It protruded from the mouth, prevented her swallowing except when she threw her head back, and, indeed, threatened her life. A likeness of this poor girl is to be seen in the "Operative Surgery." She had been declared incurable at most of the hospitals in London, but, hearing of the "wonders" done by Liston, she applied to him. He at once determined to amputate the entire jaw, and this he did in a manner and with a success that astonished every one. He was lauded by the press, and his fame as an operator was of the highest. The result of this operation determined Liston to remain in London. He had seriously contemplated migrating to New York, and had consulted several persons on the matter. The hospital, immediately after this operation, was crowded by persons hopelessly afflicted, who came from all parts to be operated upon. Among them was a young farmer who had a large tumor of the upper jaw, the result of

a blow from a cricket-ball. The tumor was not so large as that of Sarah Thomas, but it was rapidly increasing in size. The man was most anxious for its removal. At that time, when Liston had finished his hospital duties, I was in the habit of almost daily accompanying him in his carriage on his round of visits. He said on this occasion: "I do not like the character of the tumor in that young man's jaw. I am fearful it is malignant; at all events, it is a very different kind of tumor from that of the girl Thomas. I do not think I shall operate." Eventually, however, he was prevailed upon to do so; his wish to display his power and skill with the knife overcame his better judgment. The operation in this case afforded a striking contrast to that in the last. Instead of being completed without a single drawback in ten minutes, the man was nearly half an hour upon the table. We could soon perceive that the tumor had involved the neighboring bones, and had implicated the base of the skull. The formidable bone-nippers were applied again and again. The tumor appeared to have been entirely removed; the man was borne to his bed in a fainting state, and died twenty-four hours after. The tumor proved to be malignant, and had involved the base of the skull, part of which had been torn away. I never saw Liston agitated as he was that day. On our road home, he asked me whether I noticed his agitation. I said I certainly did. He declared that he had never before lost his presence of mind, but he fairly owned on this occasion he was not so cool or so guarded as he should have been. Bitter were the attacks made on Liston on account of this operation; but it was after all "a nine days' wonder." Now came a difficulty. It was absolutely necessary that the case should be published, more particularly as the other had been blazoned abroad—been made the subject of a "leading article," and illustrated by a portrait. What was to be done? Eventually, it was decided to place it among the ordinary Hospital reports with an unattractive title. And there it did appear, headed "Case of Albuminous Sarcoma of the Upper Jaw." The other case in which Liston made a grave mistake was that of a boy who was admitted into the hospital with a swelling in the neck over the carotid. When Liston was going round the ward, his house-surgeon, Mr. Wallis—who afterward settled in Hull, and lectured at the Hull School of Medicine—said, "The tumor pulsates, sir, and I can detect a bruit in it." "Pooh!" said Liston; "who ever heard of an aneurism in a boy so young?" and, putting his hand into his right waistcoat-pocket, he took out a knife, and made a deep incision into the tumor. Out leaped the arterial blood, and the boy fell upon the floor. The wound was stitched up, and the patient put to bed, the artery being subsequently

tied, but without any good result. On examination, it was found that an abscess had existed, and had ulcerated into the carotid. It is strange that Liston never would admit that he had committed an error in this case. He contended that his diagnosis was correct; but all were satisfied that the treatment was wrong. For years, however, Liston seemed occasionally haunted by this case, and brought it before the Medico-Chirurgical Society a long time after its occurrence. He had obtained particulars of some similar cases, and these, with the original, formed the subject of his paper. Even then he would not admit his error. These are the only two cases I can call to mind in which he was open to serious blame. I could detail very many in which he displayed a marvellous acumen in diagnosis, as well as wonderful skill with the knife.

THE ORIGIN OF SYPHILIS IN EUROPE.—M. Auzias-Turenne has recently addressed the Academy of Medicine in favor of the transatlantic origin of syphilis. The spirited syphilographer bases his views on three orders of proofs: 1 (historical), the writings of Oviedo, Thevet, Roderic Dias, showing the importation of syphilis, and its progress through Spain, Italy, and France; 2 (horological), to wit, the generalization and the benignity of the disease when first observed in the West Indies, its progress through Europe, insidious at first, then speedy and terrible, and now generally waning away; 3 (philological), to wit, all the appellations of the disease and its symptoms, which have been found in the Caribbean Dictionary, and in the vocabulary of the Indians, with the exception of the names of those diseases which we have exported to America. Having thus advocated this theory of the importation of syphilis from the Far West, M. Auzias-Turenne winds up with the following practical conclusion: Syphilis has come from America; we must renounce, as a general method, its traditional treatment by mercury; the ill must become its own remedy and its own preservative.—*Lancet*, Sept. 25, 1869.

THE PREVENTION OF SCARLATINA.—Under the title of “A Contribution to the History of Scarlatina,” Dr. C. E. Prior read a very interesting paper at the annual meeting of the South Midland Branch of the British Medical Association, wherein he records an epidemic which occurred in the district of Bedford in the year 1865. The paper concludes as follows:

To trace the source of every epidemic is no more possible with scarlatina than with small-pox; it should always be borne in mind that, even in the diseases of whose propagation by in-

fection, and by infection alone, we are most assured, it is quite the exception that we should be cognizant of the channel by which they were conveyed. The poison of scarlatina, be it fungoid-germ or scale-dust, is far inferior in volatility to that of variola; in fact, something like absolute contact, either with the infected individual or with an infected substance, appears to be necessary to its propagation. As a consequence of this, in no disorder do we impose a more immediate check to extension than by simple separation of the invalid from the rest of the family. I am in the habit of directing that the patient should occupy a separate room, up a separate staircase, if possible; if not, at the top of the house. All articles of clothing used by the patient should make their exit from the house in the manner least likely to leave behind any thing deleterious; the window is at times the best and only safe exit. Curtains, carpets, and all articles of stuff, should be reduced to the lowest establishment compatible with the requirements of the case. Those who are in attendance on the sick should communicate as little as possible with the rest of the household, and then only in the open air, or at a distance of some yards. All articles of dress used by them should be treated with the same precaution as those of the sick. The excretions, previous to removal, should be treated with carbolic acid. The use of disinfectants, as they are termed, in the sick-room, does not rest on unequivocal data. "Experience of the largest and most decisive kind," says Dr. Budd, "has proved that chlorine—and I believe the observation applies equally to sulphurous acid in the degree of atmospheric impregnation respirable by man—has no appreciable influence in preventing the spread of infectious disorders." I shall be glad to know what the "experience" is. The experiments of Mr. Crookes on carbolic acid and on sulphurous acid during the cattle-plague, and those of Dr. Dewar on the latter reagent, would appear to prove precisely the contrary, and had led me to suppose that in these two we possessed not simple *deodorants*, but veritable *disinfectants*. In a recent notice of Dr. Angus Smith's book in the *Public Health*, I have been sorry to find the *bona fides* of Mr. Crookes's experiments questioned. I await the clearing up of this difficulty.

The anointing of the body with camphor-oil, as recommended by Dr. Budd, is certainly an excellent precaution, and occasionally grateful to the feelings of the patient; but some other of his directions, though good in principle, savor a little too much of the "Nightingale" school, and cannot always be carried out, unless in hospital practice.

Lastly, at the termination of the disease, when all desquamation has ceased, let the patient take three baths, at intervals

of two days, taking care that the head undergoes a thorough washing, brushing, and combing. Let him be dressed in fresh clothes, and he may, without risk, resume his place in the family.

To render the disease extinct in the house, it is necessary that all articles of clothing, linen, bed, bedding, or curtains, should be exposed in an oven or drying-closet to a heat of 180° Fahr., taking care that the quantity operated on each time shall not be so great as to prevent all parts of the bundle attaining that temperature.

In this manner, with the addition of repapering the apartment, and the cautious treatment of any article not named which may have come into contact with the sick, the disease will be, in all human probability, extinguished. I will add that, at this time, it is well that the apartment, the doors and windows having been closed, should be thoroughly fumigated with sulphurous acid. Precautions such as these, however, cannot be carried out in the cottages of the poor. The rooms are required for use, the bedding, etc., are in daily requisition, and little beyond a certain amount of whitewash, scrubbing, and washing, can be effected. Looking at this, it has often been to me a matter of surprise that the number of cases among the poor is not considerably out of proportion to the rest of the population.

We may read with awe, and with thankfulness for ourselves, the records of former visitations of typhus, of plague, and of cholera; but the mortality of either of these is now as nothing to that of scarlatina, which annually carries off in this island its twenty thousand victims. Science has yet failed to achieve for this formidable scourge what has been effected in the case of variola, and we know no modified form of the disorder, exposure to which would be safe and justifiable. There is, therefore, pleasure in the reflection that its natural history, as respects its method of propagation, is pretty well made out, and that, by the exercise of certain known precautions, not only may the mortality be restricted to much smaller limits, but that, toward the adolescence of our rising population, these precautions will bear their own fruit, and that, after a time, advancing age will of itself give an immunity not much inferior to that afforded by vaccination.

ORIGIN OF GUY'S HOSPITAL.—Thomas Guy was apprenticed to a bookseller in 1660. As English Bibles were then very badly printed, Guy entered with others into a lucrative scheme for printing them in Holland and importing them. Next he contracted with the University of Oxford, and carried on a great Oxford Bible trade for many years. He laid up much

money, as he was a single man, very penurious, and his expenses were trifling. He dined in his shop on his counter, with a newspaper for a table-cloth. But the bulk of his fortune was not made by selling Bibles, but by the disreputable purchase of seamen's tickets during Queen Anne's War, and by speculating in the South Sea Bubble in 1720.

Guy had agreed to marry his servant-girl, but she offended him, and he broke off the match, and gave his money to hospitals. In 1707 he built and furnished three wards in St. Thomas's Hospital, and gave £100 to it annually for eleven years. Some time after, he erected the stately gate of St. Thomas's Hospital with the large houses on each side of it, at a cost of £3,000.

When he was seventy-six years of age, he formed the design of building his own, or Guy's Hospital, at a cost of £19,000, and endowed it with the immense sum of £220,000, or over one million dollars. He just lived to see it roofed in.

He also erected and endowed an almshouse and library at Tamworth, where his mother was born; and bequeathed £400 to Christ's Hospital.

He died December 17, 1724, aged 81 years.—*Medical Gazette*.

PRAISEWORTHY ACTION.—Massachusetts has established a State Board of Health. Drs. Henry I. Bowditch and George Derby have been chosen chairman and secretary respectively, and, from an address made by the former at the first meeting of the board, we learn the specific duties imposed upon it. These are (we quote Dr. Bowditch): "To take cognizance of every thing tending to public health," and, consequently, "to endeavor to eradicate every thing tending to public disease and death;" secondly, "to diffuse among the people a knowledge of the means of obtaining individual and public health and preventing disease;" lastly, "to investigate the effects of the use of intoxicating liquors upon the industry, prosperity, happiness, health, and lives of the people," and to suggest legislation on any or all of the subjects submitted for inquiry to the board. Dr. Bowditch proposes, for the diffusion of knowledge, to use the lyceum for "the publication in a compact form and the wide circulation of the pith, so to speak, of our general knowledge on public hygiene," and by brief, business-like, unrheterical reports annually to the Legislature.

We hail this movement with applause, especially that portion of it which looks to the distribution of sound medical knowledge among the people. The obscurantists of our profession have had their way long enough, and done harm enough. It is now time that some one besides itinerant

quacks should circulate knowledge on physiology and hygiene.
—*Medical and Surgical Reporter*.

SIX AT A BIRTH.—We recently noticed in the New York *Tribune*, and other papers, a statement that a lady at Pre-emption, Illinois, had become the mother of six children at one time. We wrote in amazement to one of our subscribers there, who asserts most positively that such was the fact, but adds the explanation, that the way it happened was that she married a widower with six children.—*Ibid*.

ON THE MODE OF TRANSMISSION OF THE ACUTE EXANTHEMATA, AND ON THE PRECISE PERIOD OF INVASION OF THESE DISEASES.—At a recent meeting of the *Société Médicale des Hôpitaux* at Paris, M. Girard, of Marseilles, read a very interesting paper upon this subject, based upon careful observations of 108 cases of measles occurring in the course of an epidemic lately reigning at Marseilles. He was able to trace contagion as the source of all these attacks, and believes contact to be essential for the propagation of the disease. He is equally convinced that the period of incubation is also that of contagion, and quoted, in support of this assertion, some sufficiently striking examples. As to the precise period, he states that in the 108 cases noted the eruption appeared as late as the sixteenth day in only three; in all the other cases it was developed on the thirteenth or fourteenth day, but never before the thirteenth, never after the sixteenth. M. Girard feels thus able to fix the period of incubation between thirteen and sixteen days—a point of great importance. And as he is equally convinced that the period of contagion is limited to the early stage of the disease, and does not last through the decline of the rash—an opinion not shared by the numerous speakers in the discussion which followed the paper—he suggests that children may be released from quarantine with perfect safety after eleven or twelve days at most. A point of great interest in the communication referred to the early diagnosis of the disease. M. Girard has invariably discovered, when he has been called in sufficiently early, four, five, or at most six days before the appearance of the eruption, a red pimple on the velum palati. This sign has never deceived him. Although all other symptoms may have disappeared, this *pointillé rouge* has always been followed by the rash of measles. Broussais was acquainted with this sign in 1835, and it had been first pointed out to M. Girard in 1839 by Valleix, but these observers had not fixed the period of its appearance. M. Girard states that the papule is red, that it appears toward the free border of the velum palati, between the fifth and seventh day after the first symptoms, and disap

pears toward the third or fourth day after the eruption.—*Med. Times and Gazette.*

THE MOSSING PROCESS IN CINCHONA CULTURE.—At the late "Pharmaceutical Conference" held at Exeter, the president, in reviewing the principal events of the year connected with pharmacy, referred to this process, which seems destined to play an important part in the cinchona culture :

The process consists in covering the stem, from which a strip of the bark has been removed, with moss. The wood thus laid bare exudes a delicate cellular tissue, having the appearance of minute gelatinous drops, which gradually increase and harden, and ultimately form a new layer of bark. An interesting fact in connection with this new bark is, that it is richer in alkaloids than that which it replaces, and the bark of the second renewal is richer than the first, and the third than the second. This increase of the alkaloids is considerable—in some cases almost double—and it is also stated that the bark of the third renewal is better fitted for the extraction of quinine than normal bark, and yields its alkaloid in a state in which its purification is singularly easy.

DR. C. F. CHANDLER, of Columbia College, New York, and chemist to the Metropolitan Board of Health, is in his official capacity doing good work in his repeated examinations of samples of proprietary and other illuminating oils, offered for sale in the New York market, his researches being directed toward the point at which they explode. Out of one hundred samples thus far examined, not one has reached the standard fire-test, while some of them appear to consist mainly of benzine and naphtha. The doctor ventilates the matter boldly in each number of the American supplement of the *Chémical News* (of which he has editorial charge), and elsewhere, and seems determined to do all in his power to suppress the sale of these dangerous liquids. How worthy his object is, is made apparent by the daily accounts of serious, if not fatal injuries, from the use of such villanous compounds. The criminal recklessness and disregard—say rather contempt—for life, of many who manufacture and deal in illuminating oils, is almost beyond belief, and public attention cannot be too often turned in that direction by those in authority.—*Amer. Gas-Light Journal.*

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ART. I.—*The Induction of Premature Delivery as a Prophylactic Resource in Midwifery.*¹ By T. GAILLARD THOMAS, M. D., Professor of Obstetrics, and the Diseases of Women and Children in the College of Physicians and Surgeons, New York.

THERE are certain dangers inherent to the process of parturition which, in spite of scientific midwifery and the prophylactic resources of intelligent hygienic management, must forever invest it with importance, and produce a certain loss of life in its performance. The most sanguine of modern obstetricians must admit that the perils of childbirth, which have been recognized in all ages and among all people, will never disappear, but must forever endure as a fulfilment of the primal curse, "In sorrow shalt thou bring forth children."

He may turn with pride to the advances in pathology and improvements in practice which have marked the modern school of obstetrics; he may enumerate with warrantable

¹This paper was read at the meeting of the Medical Society of the County of New York, December 7, 1869. See Proceedings of Societies, in this number of the JOURNAL.

gratification the surgical procedures that now render manageable abnormal labors with which our forefathers could not cope; he may point to a marked improvement in the statistics of the lying-in chamber, yet still he must feel and admit that much—very much—remains to be done. When he reflects upon the statement made by one of the most eminent living obstetricians, that in England and Wales, which contain but twenty million people, three thousand women die annually in childbirth, he must acknowledge that it is the duty of every obstetrician to study with the utmost devotion those influences which, exerting themselves before, during, and after delivery, accomplish this unfortunate result.

As I have just now stated, a certain number of these influences are unavoidable, being either inherent to the process of parturition, or developing themselves without warning in the moment of its performance. But while in some unfortunate cases no premonitory symptoms will occur to forewarn the most watchful and intelligent practitioner of the danger which awaits the parturient act, I do not think that I assume a position which is untenable when I state that, in most instances, the most serious complications of labor, both as regards mother and child, may be recognized by their peculiar premonitory signs, one, two, or even three months before the end of pregnancy, and being recognized may fortunately often be avoided. My impression is, that nothing will in the future tend to diminish the mortality attendant upon parturition so markedly as the induction of premature delivery for the removal of mother, child, or both, from that condition upon the continuance of which depends the danger which menaces them.

Before proceeding further, let me state that in this essay I shall make a marked distinction between premature labor and abortion. The former denotes a premature expulsion of the contents of the uterus; the latter, a failure in the results of utero-gestation. Consequently, the induction of premature labor is in one essential respect different from that of abortion, and is called for in the fulfilment of different indications. The former, being resorted to after the period of viability of the child, does not involve the sacrifice of its life, but often adds to its prospect of living by removal of it from a position of danger,

and sometimes even of certain death ; or, to put the matter more tersely, abortion is resorted to in the interest of the mother alone at the expense of the life of the child : premature labor is induced sometimes for the sake of the mother, sometimes for that of the child, and sometimes in the interest of both. For the sake of preventing irrelevancy of discussion in any argument which may be suggested by my remarks, I would particularly point out the fact, that the subject which I have undertaken is strictly limited to the consideration of the induction of premature labor, and in no way concerns that of the induction of abortion.

The practice of inducing premature labor, unlike that of abortion, is of very recent date. Denman informs us that in the year 1756 a congress of physicians was held in London for the purpose of discussing the advantages of the procedure. It was approved of, and since that time its adoption has steadily though slowly extended.

The following list presents the morbid states for which I should consider the operation indicated :

1. Deformity of the pelvis.
2. Placenta prævia.
3. Aggravated uræmia.
4. Excessive vomiting.
5. Placental apnoea.
6. Commencing epithelioma.
7. Death of child and consequent septicæmia.
8. Threatened death of child.
9. Approaching death of mother.
10. Amniotic dropsy.
11. Previous rupture of uterus or performance of the Cæsa-rean section.
12. Excessive accidental hæmorrhage.
13. Previous difficulty in deliveries of large children, or of children with ossified sutures.
14. Tumors obstructing the pelvis.

From this enumeration of indications for the induction of premature delivery, I have intentionally excluded a number which call for abortion, but not for the procedure which now engages our attention. I have likewise, for the purpose of

avoiding prolixity and a spurious show of completeness, omitted the enumeration of certain rare conditions which might call for it, but would in all probability never do so. As examples of such indications let me mention the existence of ovarian and fibroid or fibro-cystic tumors in the abdomen; the differentiation of an extra-uterine pregnancy from a tumor, etc., etc. The ground left untouched in the list given may be covered by two general statements: first, any condition threatening the life of mother or child after the period of viability, which could be removed by premature delivery, would call for its induction; second, any obstruction existing in the true pelvis which would allow the passage of a child that has not arrived at the full period of intra-uterine life, and would prevent the exit of one which has reached the end of the ninth month, without mutilation, would prove a valid indication.

I shall now consider each condition which I have enumerated, in turn, giving clinical cases as instances of a resort to the operation for such indications as appear to require illustration from their novelty or the doubtfulness of their claims.

Deformity of the Pelvis.—Premature delivery has been more frequently induced on account of this condition than any other which has been mentioned. That this should be so is a natural deduction, when it is borne in mind that in the great majority of instances it is the indication which calls for those dangerous procedures, craniotomy, embryotomy and the Cæsarean section. Out of 300 instances in which premature delivery was resorted to in British practice, according to Dr. Tyler Smith, in an able essay in the first volume of the London Obstetrical Transactions, 273 operations were necessitated by pelvic distortion. 273 out of 300 presents a most disproportionate ratio, but the hearer must remember that these are the statistics of a past age. Every progressive obstetrician of to-day will bear me out in the assertion that many indications which until lately have not claimed the advantages of this operation will now do so, and make the disproportion in favor of deformity of the pelvis much less marked.

It is difficult to say what degree of deformity calls for the procedure, but in general terms it may be stated that, wherever it is estimated, or, as is far better, where it is proved that

a child at full term cannot be delivered except by instrumental or manual means, premature delivery is called for. Still speaking generally, the normal length of the shortest diameter of the pelvis is 4 inches; between this and 3 inches is the domain of the forceps; between 3 inches and $2\frac{1}{2}$, that of version; between $2\frac{1}{2}$ and 2, that of craniotomy; and under 2 inches, that of the Cæsarean section. I shall not argue as to the propriety of preferring premature delivery to the terrible risks attendant upon the graver of these procedures, for all will admit it. I take a position which will be less freely acknowledged when I state that so safe is the premature and artificial delivery of a child at the eighth or eighth and-a-half month of utero-gestation, by our present methods, that it should be preferred to delivery by the forceps at the tenth menstrual epoch. But under the last circumstances the necessity for interference must be established, not by measurements, which do not display slight contraction; it must have been proved by past experience with the particular patient whose case engages attention.

For such a condition as that which I have depicted I have twice induced premature delivery. One of these cases will suffice as illustrative of my proposition:

I was requested in the month of March last, by Dr. Wm. B. Bibbins, to see with him Mrs. McD., an Irish woman, aged thirty-six years, who had been married seven years and borne four children. She gave the following history of her labors. The first child, a small girl, was delivered at full term by the forceps, by Dr. Ramsey. She was in labor, she says, four days. This child lived for one year. The second child was a larger girl, which was delivered by forceps, and was still-born. The third was delivered by version, by Dr. Gillette, and was still-born. The fourth was delivered by myself in consultation with Dr. Bibbins, by version, and was still-born. She was now pregnant for the fifth time, and was extremely solicitous for a living child. With Dr. Bibbins's consent, I promised her that delivery should be brought on in three weeks from date, when she would be at the end of the eighth month of pregnancy. A careful examination of the pelvis convinced me that it was a *justo minor* pelvis, but one not relatively deformed.

On the appointed day, Dr. Bibbins, Mr. Hall, a student of Dr. B., and myself, met at the house of the patient, and proceeded to bring on delivery in the following manner: we placed the patient in the obstetric position, with a tub of warm water under the edge of the bed, and for half an hour

showered the os freely. At the end of that time I put in Barnes' smallest dilator, and in an hour the os was fully dilated, and the bag of membranes presenting; no labor pains came on, and in twenty-four hours we met again, and I used the warm douche for a half hour, dilated the os fully with the largest dilator, and introduced a No. 6 gum-elastic catheter between the membranes and the uterus, up to the fundus. In twenty-four hours we met again, and, to my surprise, found that no uterine contraction had occurred. The catheter was now removed and inserted upon the other side, an enema of salt water was thrown into the rectum, and the largest dilator again introduced. We waited over an hour, and still there was no uterine effort. Slight hæmorrhage from the uterus now occurred upon removal of the dilator, and fearing for the child I proposed at once to deliver it. Dr. Bibbins consenting, the patient was anæsthetized, and, passing the hand into the vagina, and two fingers into the uterus, I readily delivered a vigorous boy, who has since done well, as has also his mother. I have met with but one other case—one, by the way, which was coincident as to time with this one, in which it was so difficult to excite uterine contractions.

Placenta Prævia.—No one who has had experience with this form of complicated labor, will feel disposed to undervalue or cast aside any remedy which is offered for the rescue of patients presenting its premonitory symptoms. So serious are its results that, although it occurs not oftener than once in five hundred cases, which is the proportion computed as correct by some authors, it exerts a marked influence upon the statistics of obstetrics. According to the calculation of Sir James Simpson, based upon the analysis of three hundred and ninety-nine cases, one-third of the mothers and over one-half of the children are supposed to have been lost. The reasons for this great mortality are probably the following:

1. The dilatation of the cervix for the passage of the child, unavoidably exposes both mother and infant to great danger from placental detachment and hæmorrhage.

2. Repeated hæmorrhages occurring during the ninth month; as the os internum dilates under the influence of painless uterine contractions, which then occur, the woman at the time of labor is usually exsanguinated, exhausted, and depressed both physically and mentally.

3. Profuse flooding generally occurring with the commencement of labor, the medical attendant is often not at

hand, and reaches his patient only after a serious loss of blood has occurred.

Fortunately, this condition is usually announced during the last months of utero-gestation by premonitory signs of reliable character, and thus we may empty the uterus before the vital forces of both mother and child are exhausted by hæmorrhages, the results of repeated detachments of the placenta. My conviction is that, in every case of declared placenta prævia, premature delivery should be induced. What objections can be urged against it, other than that a child of less than nine months of intra-uterine life does not have as good a prospect of life as one which has arrived at full term? In the case which we are considering, even this falls to the ground, for an eight-months child out of the uterus, and depending upon pulmonary respiration, has a brighter prospect for life than one in that cavity depending for aëration of its blood upon a crippled and bleeding placenta. For the mother, how incomparably greater the safety which attends an emptied and contracted uterus! By inducing delivery during the ninth month of pregnancy, we should be dealing with a woman who is not exhausted by repeated hæmorrhages; we would be in attendance at the moment of cervical dilatation, and consequently the moment of danger; and we would be able by hydrostatic pressure to control hæmorrhage in great degree, while at the same time dilatation of the cervix, which constitutes the period of maximum danger, may be rapidly accomplished.

With these considerations before me, and with a certain amount of experience to support them, I cannot resist the conviction that, when premature delivery becomes the recognized and universal practice for placenta prævia, the statistics of Dr. Simpson will be replaced by others of a far more satisfactory kind.

I have induced premature delivery for placenta prævia four times, and, as the subject appears to me of paramount importance, I risk the danger of wearying my audience by detailing all the cases:

CASE I.—Mrs. W., aged twenty-six, primipara, in good health, was suddenly taken with hæmorrhage three weeks before full term. She sent for me in great haste, but, being occupied, I was unable to go to her, and

she was seen for me by my friend, Dr. Reynolds. He discovered that she had lost a few ounces of blood, but that the flow had ceased. Three days afterward she was again affected in the same way, the flow ceasing spontaneously. About a week after this, she was taken during the night with a flow, which was so profuse as to result in partial syncope when she endeavored to walk across the room. I saw her early the next morning, found her flowing slightly, and, upon vaginal examination, succeeded in touching the edge of the placenta through the os, which was dilated to the size of a ten-cent piece. Later in the day, Drs. Metcalfe and Reynolds saw her and agreed in the propriety of premature delivery. In accordance with this consultation, at 7 P. M. I introduced into the cervix, with considerable difficulty, and by the employment of some force, the smallest of Barnes's dilators. This in twenty minutes was followed by the next larger dilator, and in an hour by the largest. Dilatation was rapidly accomplished, but, instead of removing the largest bag, I left it in the cervix until 10 o'clock that night. Expulsive pains coming on at that time, I removed it, when the head rapidly engaged, and before morning Mrs. W. was safely delivered of a living girl. The placenta followed rapidly, and both mother and child did well.

In this case, although hæmorrhage continued slightly throughout the labor, it was never sufficiently profuse to endanger the lives of either mother or child. The implantation of the placenta being lateral, diminution of the flow occurred as the head advanced, and made firm pressure against the bleeding surface.

CASE II.—Mrs. D., a lady over forty years of age, whose last pregnancy had been completed fourteen years previously, was placed under my care by Dr. Metcalfe. She was an excessively nervous and hysterical woman, but in good health. About three weeks before full term she was taken with hæmorrhages, which lasted for very short periods, recurred at intervals of four or five days, came on without assignable cause, and ceased without remedies. The cervix was not dilated, and no physical signs of placenta prævia could be detected either by vaginal touch or auscultation. Dr. Metcalfe saw her in consultation, and, as all the rational signs of placenta prævia were present, and our patient was suffering from the repeated losses, and was becoming extremely nervous and apprehensive, we concluded to bring on premature delivery. Accordingly, at 11 A. M. I introduced a large sponge-tent into the cervix, and at 3 or 4 P. M. removed it, and succeeded in inserting Barnes's smallest dilator. At 9 that night the cervix was fully dilated at the expense of very slight hæmorrhage, and Dr. Metcalfe then being present, I removed the bag, intending to leave the case to Nature, provided no flow occurred. Previously, during the evening, upon changing the bags, I had distinctly touched the head as the presenting part, but now, to my surprise, I found that the bag impinging on this part had caused the child to revolve in the liquor amnii, and that the breech was now within the os.

We decided under these circumstances to deliver at once. The patient being put under the influence of ether, I drew down the legs and delivered a living, female child. The placenta followed in fifteen minutes, and both patients did well, the child rapidly recovering from an injury to one of its legs, received during delivery.

In this case, the placenta was very nearly centrally attached. At one side of the os internum, a space of only two fingers' breadth was free. Through this, digital examinations were made, and the hand pushed to seize the feet. The first stage being accomplished by means of the hydrostatic dilators, no hæmorrhage attended it; but, without this means having been employed, it is highly probable that profuse and dangerous flooding would have occurred.

CASE III.—Mrs. P., a multipara, aged thirty-eight, had advanced, without any unfavorable symptoms, to the middle of the ninth month of pregnancy. At this period, while sitting, at 9 P. M., in her parlor, engaged in some light needle-work and in conversation, she suddenly felt a free flow of blood pouring away from the vagina. In a few moments she became very much exhausted, and was lifted up by her husband and carried upstairs to bed. I saw her within an hour after this, and found her still losing blood to a slight extent. Her pulse was very rapid and weak, and her face extremely pallid. It was estimated that about one quart of blood had passed, though this was of course uncertain.

As the flow had ceased after I had kept the patient quiet for an hour, I left the house, promising an early visit in the morning. Upon this visit I found her doing well, though somewhat exhausted. Feeling satisfied, from the great amount of flow, and the fact of its having occurred without any exciting cause, that placenta prævia existed, I now explained the state of affairs to my patient's husband, and requested Dr. Metcalfe to see her in consultation. He agreed with me that the probability of the safety of both mother and child would be greatly increased by at once inducing premature delivery, and at 9 that night I set about accomplishing it. At 9.30 exactly, in the presence of Dr. Metcalfe, I introduced into the cervix the smallest size of Barnes's dilators, and at 10.30 the os was fully dilated. So long as the bag was retained in the cervix, no hæmorrhage occurred, but on the instant of its removal a flow took place. Under these circumstances, it was thought best to deliver at once. The patient being put under the influence of chloroform, I performed bimanual version, and with great ease delivered a living child. The placenta soon followed, and mother and child recovered without an unfavorable symptom.

In this case, delivery was accomplished in one and a half hours from the commencement of the effort, and the process was inaugurated just twenty-four hours after the development of the first symptom of danger. The flow which constituted this symptom was so sudden and alarming that we thought

that great danger would attend delay, uncompensated for by any corresponding advantage. After full dilatation and removal of the dilator, Dr. Metcalfe examined and found a very large piece of placenta hanging out of the os uteri, and thus the diagnosis was proved to have been correct.

CASE IV.—I was called on the 14th of November, by Dr. Keeney, to see with him Mrs. R., a multipara, aged twenty-three years, who was nearly at the end of the seventh month of pregnancy. About one week before our visit, she had been suddenly seized with quite a profuse hæmorrhage, which had rapidly diminished, but never completely disappeared. The nature of the flow, which occurred by sudden gushes, and in great profusion, led us to the conclusion that it was due to placenta prævia, but as the period was not favorable to the viability of the child, we determined to avoid interference until the eighth month, if possible. The patient was accordingly kept perfectly quiet in bed, and all effort avoided. For two and a half weeks this plan appeared to succeed, and we had strong hopes of reaching a period when both child and mother might be rescued by premature delivery. When the seventh month and one week of the eighth had passed, the flow returned, and continued so steadily that, to our regret, we were forced to empty the uterus in the interest of the child, who was evidently becoming much enfeebled by gradual placental detachment, and of the mother, who likewise felt the loss of blood very perceptibly.

At this period Dr. Keeney and I met at the patient's house at 8.30 p. m. At twenty minutes before 9 I introduced Barnes's smallest dilator. At ten minutes after 9 the os was fully dilated, and I, introducing my hand, readily delivered a living child by version. The child was evidently very feeble, and, although at once wrapped in cotton and surrounded by an atmosphere heated to 95°, it lived only about nine or ten hours.

In this case, as soon as the os was fully dilated, we could distinctly feel the placenta, and as I passed **up** my hand I found that it was centrally attached. It is the only case in which I have met with complete placenta prævia. The mother recovered without an unfavorable symptom.

Aggravated Uræmia.—The pregnant woman is peculiarly liable to a form of desquamative nephritis, which probably depends in part upon the hydræmia attendant upon utero-gestation, and in part upon direct pressure of the enlarging uterus upon the kidneys and their blood-vessels. This condition, which marks its presence by albuminuria, anasarca, and the cerebral and gastric symptoms ordinarily attendant upon uræmia, has been appropriately styled puerperal nephritis. Unlike ordi-

nary nephritis, and like that which results from scarlatina, it is usually ultimately recovered from. When complicating utero-gestation, however, this form of nephritis proves the most fruitful of all the sources of convulsions, œdema of the lungs, and puerperal mania. It develops generally after the sixth month, and becomes aggravated as the uterus continues to enlarge and exert greater pressure upon the kidneys. Sometimes, however, it does not appear till the end of the eighth month, when the danger to the patient steadily increases until the uterus has been emptied. This condition often calls for premature delivery, in order that the woman's blood may not become more and more impure, as greater and greater pressure upon the kidneys occurs; that the daily increasing risk of convulsions may be avoided; and that the child, in danger from the poison accumulating in its own as well as its mother's blood, may effect aëration by some other means than the contaminated placenta.

I have not space, nor do I deem it essential even if I had, to enter here upon the subject of statistics as applied to the proportion of women affected by puerperal nephritis, who escape the evils which I have mentioned. It will answer my purpose in addressing a body of practical physicians, to refer merely to a fact, which they all know as well as I, that a large number of women, who suffer from all the symptoms of puerperal nephritis, escape those results of blood-poisoning to which I have drawn attention. To place before them as clearly as possible the fact that I do not advocate premature delivery merely because this complication of pregnancy exists, I would divide all the cases of the affection into three classes:

1. The class in which only a cloudiness of the urine develops under heat and nitric acid, and in which only slight anasarca and nervous disturbance exist. For this, no other interference is usually necessary than stimulation of the intestinal and cutaneous secretions, steady and systematic examination of the urine, and avoidance of tight clothing, nitrogenized food, and habits of luxury.

2. The class in which a copious deposit of albumen takes place under heat and nitric acid; anasarca to a moderate degree exists; and gastric and cerebral symptoms show the in-

fluence of retained renal secretions to such an extent as to create considerable annoyance. For this class the general management already indicated should be pursued; the urine should be carefully examined every third or fourth day during the last two months of pregnancy, so that any increase of renal congestion might at once be recognized as an indication for interference, and the patient be delivered under chloroform.

3. The class in which the urine treated by heat and acid undergoes almost complete coagulation; excessive anasarca exists; the stomach, brain, and nervous system, sympathize; and tendency to coma is denoted by constant desire for sleep. So long as cases of the first class keep within their legitimate bounds, they do not call for premature delivery. Even while those of the second class keep within their limits, they may require it, but do not of necessity do so; but in the third class this resource will always offer itself as a haven of safety for both mother and child. To express this more concisely, I would say that the first class *very rarely*, the second class *sometimes*, and the third class *always*, calls for the induction of premature delivery.

For this indication I have induced premature delivery three times. All the mothers recovered and two of the children. One child was known to be dead at the commencement of the process. I shall give very short notes of these cases:

CASE I.—Mrs. B., a multipara, aged thirty-two, had lost her father, mother, and one sister, of Bright's disease, and in her only previous labor had suffered from [convulsions, caused by puerperal nephritis. She advanced quite well to the seventh month, when suddenly the gravest symptoms of uræmia developed themselves. By general management she was carried to the end of the eighth month, when she could, without straining the point at all, be classified in my third group. At this time I used the warm douche at mid-day, separated the membranes by a silver catheter two hours afterward, and at 6 P. M. introduced Barnes's middle-sized dilator. At 7 P. M. this was removed, and a gum-elastic catheter introduced to the fundus uteri. This soon excited labor-pains, and in three hours a large girl was born. The mother was delivered under chloroform. Both patients did well.

CASE II.—Mrs. W., a sister of the above, multipara, aged thirty, had been in a previous labor delivered, by Dr. McClellan, of Brooklyn, of a living child by version; the operation being necessitated by convulsions, due to uræmia. Her urine was sent to me from Schenectady, at the seven

and a half month. It coagulated under chemical tests, and I telegraphed her to come to New York. She did so, and, although her symptoms placed her in my third class, I delayed interference until the end of the eighth month. At that time labor was induced as in Case I. Mother and child did well, the labor only occupying about three hours, and coming on vigorously by use of the dilators alone.

CASE III.—Mrs. M., an Irishwoman in the lower walks of life, primipara, in the seventh month of pregnancy. I saw her, in consultation with Dr. J. J. Connolly, on account of the most violent and constant puerperal convulsions, which had continued for four or five hours. She was very œdematous, and between the attacks perfectly comatose. Having no dilators at hand, we used the warm douche for half an hour; then, finding the os dilatable, I introduced two fingers into the uterus and performed bimanual version, delivering a still-born child. No foetal movements had been detected for hours, and the foetal heart had been inaudible. This woman recovered temporarily, but never got over the renal disease. About three years after this, I was called to see her by Dr. Vaughn, who had attended her in another labor. I found her giving all the evidences of uræmia, and suffering from violent mania, from which she died.

Excessive Vomiting.—This condition, usually existing as a morbid state before the fourth month, much more frequently demands abortion than premature delivery. Sometimes, however, it continues throughout pregnancy, or, as in the subjoined case, develops toward its close. I have met with but one case which has demanded the procedure which now engages our attention. The following notes were kept for me by Dr. Sproat, house-physician of Bellevue Hospital:

CASE I.—Honora Curtin, an Irishwoman, married, aged about thirty-one, a domestic, was admitted to Bellevue Hospital, June 8th, 1869, and in the absence of Dr. Elliot came under the care of Dr. Thomas, who was replacing him. On entering the hospital, she thought herself a little more than six months advanced in pregnancy, having menstruated last in December, 1868. Four days before entrance the patient was attacked with vomiting, which she at first attributed to abusive treatment by her husband, although she afterward denied it. This vomiting had continued night and day, at intervals of not more than ten minutes. After her admission to the hospital, all nourishment was given by the rectum, as the stomach could retain nothing.

All efforts at controlling the vomiting having failed, and the patient becoming constantly weaker, on the evening of June 10th she was anesthetized by ether, and premature delivery induced by Dr. Thomas. The os uteri was dilated manually, a single finger being first introduced, and

afterward two, which were then separated as widely as possible. The dilatation was completed by the use of Barnes's largest dilator, and the child delivered by traction upon the feet. The whole operation was accomplished in twenty minutes. The uterus contracted well, the placenta coming away immediately. The child was alive, but survived only about four hours. The vomiting ceased on the second day after delivery, but the urine when tested gave signs of renal disease. The patient was discharged July 2d, apparently well.

I have met with no other case in which artificial delivery has been accomplished so rapidly as in this. The operation, which was performed in presence of Dr. Nott, of New York, Dr. Wilson, of Baltimore, and the house staff of Bellevue Hospital, occupied precisely twenty minutes, and was completed, without violence, with safety to the mother and child. It is true that the child died in four hours; but, when it is remembered that it was but six months advanced, this is not astonishing.

Placental Apnœa.—In a certain number of women a fatty, calcareous, or syphilitic degeneration affects the placenta one or two months before full term, and in repeated pregnancies destroys the lives of the children. Under these circumstances, where the intra-uterine lung, the placenta, becomes decrepit and inefficient, the indication for premature delivery, which enables the child to breathe by air instead of fluid, to live like a mammal and not like a fish, is very clear. The symptoms which notify the obstetrician when to interfere are: enfeebled movements on the part of the child, enfeebled heart-beat, and approach of the time when previous infantile deaths have occurred.

Commencing Epithelioma.—Pathologists now draw a broad line of distinction between the two great varieties of malignant disease which may affect the tissues of the uterus. First, we have true cancer, the removal of which is useless, because it invariably returns; and second, we have epithelioma, which, if removed in its earliest stages, may never return. Either form may develop in the pregnant uterus. If it be the latter which is discovered, it is recommended to empty the uterus and amputate its neck. I have never done this; but, to give a clinical example of its performance, I avail myself of a

case presented by my colleague, Prof. Jacobi, before the New York Obstetrical Society, and published in the proceedings of that body :

"Dr. Jacobi presented a specimen with the following history: In July last, a woman eight months advanced in pregnancy (primipara) was admitted to the lying-in department of the Nursery and Child's Hospital. As is the rule in that institution, she was examined on admission by the touch and with the speculum. The house-physician, observing through the speculum a peculiar discoloration of the cervix, called the attention of Dr. Jacobi to the appearance. Dr. Jacobi found the cervix short, broad, and soft, the os being patulous, so that the finger could easily reach the os internum and touch the membranes.

"Through the speculum the part presented a grayish-white appearance, resembling the cauliflower canceroid. It bled readily when touched, and quite freely on the removal of a small piece for examination. Under the microscope it was seen to consist almost entirely of cells, mostly large pavement epithelial, and some spindle-shaped and smaller cells, a large amount of granular detritus, and spherical corpuscles enclosed in masses of concentric fibres. There could be no doubt that it was a papillary growth of the kind known as cauliflower excrescence.

"Dr. Jacobi determined to induce premature labor at once, with a view to the removal of the diseased part as soon as possible after delivery. He did not deem it safe to allow the woman to go her full time, lest, on account of the physiological congestion of the womb, and its rapid development at this period, the disease should advance, *pari passu*, and grow to such an extent as to greatly imperil, if not destroy, the chances of entirely removing it. He at once introduced his hand, turned, and delivered, the whole process being accomplished in about fifteen minutes.

"To lose no time, ten days after delivery, Dr. Jacobi proceeded to remove the diseased cervix. It was drawn down with great difficulty, and, with the assistance of Dr. Guleke, he succeeded, after numerous failures and the destruction of several wires, in encircling part of it with the galvano-caustic wire, and removing portions of the diseased mass. When it was no longer possible to remove any more in this manner, the olive-pointed galvano-caustic iron was applied to what remained of the cervix, and its destruction effected in this way. The patient recovered well after the operation, and was seen by Dr. Jacobi only a few days ago. He found, on examination, the cervix entirely gone, the uterus measuring about an inch and five-eighths in length. The cicatrix was smooth and firm, and the general health of the woman quite good. There was not light enough on this occasion for examination with speculum. The patient has menstruated since the operation."

Death of Child and Consequent Septicæmia.—When a child dies *in utero* during the latter months of pregnancy, it

is often retained, usually without injury to the mother, until full term, and then expelled. So surely may we calculate upon this issue that interference is not considered justifiable. In rare cases, however, great constitutional disturbance is set up, and a low grade of blood-poisoning demonstrates its presence. I have met with but one instance of this, which I now give in illustration :

CASE I.—N. P., a handsome young American woman, aged about twenty-five years, the mistress of a gentleman of this city, sent for me at the eighth month of pregnancy. I found her suffering from hectic fever which came on every afternoon, and which was followed by profuse sweating, which lasted all night, saturating her night-clothes, and exhausting her excessively. Upon examination I found that she carried a child *in utero*, which was evidently still, and, as she positively asserted, had been so for a month. Strongly suspecting that a criminal delivery had been attempted at the seventh month, which had failed to produce expulsion, but succeeded in destroying the life of the fœtus, I refused to interfere, but watched the case for two weeks. At the end of this time, the patient was so much prostrated by constant vomiting, profuse sweating, and recurrent attacks of fever, that I feared to delay longer, and at the eighth and a half month brought on delivery. A putrid child was expelled, upon which I could discover no signs of injury. After delivery, the mother was very ill with obscure typhoid symptoms, but ultimately entirely recovered.

Threatened Death of Child.—I have already stated that in women who habitually suffer from disease of the placenta, and in consequence bear still-born children, the induction of premature delivery is decidedly indicated. If the life of the viable child be threatened from any other cause, the same remark holds true. The following conditions are examples of those which most frequently call for the operation in this connection: accidental hæmorrhage or uræmia existing in such degree as not to endanger the mother, but to jeopardize the life of the child; a blow upon the abdomen; a fall exerting its direct force upon any part of the body, and by *contre-coup* affecting the uterus and its contents; or any other influence which impairs the safety of the child without seriously implicating that of its mother. I give one instance in which the operation was resorted to for the fulfilment of this indication :

CASE I.—Mrs. P., a healthy multipara, had advanced to the seventh month of pregnancy without developing any unpleasant symptoms, when suddenly all those which I have enumerated as bringing a case into my

second class under the head of uremia presented themselves. Dr. Metcalfe, who now saw her with me, agreed in the propriety of limiting our treatment to general means, and keeping the case under strict supervision until the eighth month was arrived at. Then, if indications pointed to the necessity of delivery, it was to be induced. I saw the patient twice or three times every week, examined the urine regularly, and saw with pleasure that no increase of bad symptoms occurred. About one week before the end of the eighth month, Mrs. P. sent for me and told me that the movements of her child were becoming very feeble, and that she felt sure it was growing weaker daily. I found the fetal heart almost inaudible, and could discover no movements of the fetus upon prolonged examination. Dr. Metcalfe saw her on the next day, and, corroborating these observations, advised immediate delivery. We accordingly met at the patient's house at 8 p. m., and, after using the warm douche for half an hour, I introduced the smallest of Barnes's dilators, and in an hour the first stage of labor was accomplished. But the uterus could not be excited to action for a length of time, even by the most energetic urging. Uterine catheterization and the use of stimulating enemata failed to cause the second stage to inaugurate itself. On the next day, however, about 10 A. M., uterine contraction occurred, and a male child was easily and rapidly expelled. To my great disappointment, it was still-born. The fears of the patient had evidently been well founded, and interference had come too late, prompt as it was.

Approaching Death of the Mother.—I beg to draw attention to the fact that I do not, in stating this indication, speak of threatened death or prospective death. From my standpoint I am supposing the mother beyond the hope of recovery, and in such a condition that the vitality which remains to her may be legitimately exhausted in an effort to save the life of her offspring. As examples of this condition I would enumerate the last stages of phthisis, cancer, aneurism of the aorta, Bright's disease (not puerperal nephritis), cerebral disease, etc. In illustration I give the following :

CASE I.—Mrs. C., a multipara, weighing about two hundred pounds, forty years of age, and previously in perfect health, sent for me very hastily, in the absence from the city of Dr. Metcalfe, her ordinary attendant. I found her in great trepidation, crying, and declaring that she was sure she was going to have a fit, from the fact that she had suddenly been taken with a violent headache, vertigo, ringing in the ears, and disordered vision. The flowers which constituted the carpet pattern were, she said, rapidly revolving, so that she dared not look at them. Her pulse was full and bounding, face suffused, eyes projecting, and vessels of the neck distended. She lived very near my residence, and, obtaining a phial of her urine, I hastened

home to test this and get a lancet. In twenty minutes I returned to her house, and found that in the short time of my absence she had had one violent convulsion. This had evidently caused the rupture of one of the vessels of the brain, for almost complete hemiplegia existed. Drs. Edward Delafield and Charles Henschel at this moment entered the room, and with their sanction I drew about a quart of blood from the arm, but Mrs. C. remained comatose and hemiplegic. No other convulsion occurred, all the symptoms pointing to serious organic lesion in the brain, and the patient behaving like one in ordinary apoplexy. Dr. Metcalfe returned in forty-eight hours, and took charge of her, I seeing her only occasionally. On the fifth day of the attack it was evident that she was sinking rapidly, and, as the child, which was just at the seventh month of intra-uterine development, was living, it was determined to deliver it. In accordance with this decision, I easily and rapidly dilated the cervix with Barnes's dilators, performed bi-manual version, and delivered a living child, which has since grown to be a large and very vigorous girl. The mother, who was completely comatose and almost moribund at the time of the operation, died in the course of twelve hours. I neglected to state earlier in the history that the urine which I obtained on the day of the convulsion became absolutely gelatinous under heat and nitric acid.

In this case, as we felt sure that a cerebral vessel was ruptured, we did not bring on labor earlier for fear of increasing the effusion. It was finally induced at the expense of the rapidly-failing strength and prospects of the mother, in the interest of the child.

Amniotic Dropsy.—Sometimes the amnion, which ordinarily secretes a limited amount of fluid, takes on excessive action and distends to a dangerous degree the uterus, which, in consequence, interferes with the physiological action of the abdominal viscera, the diaphragm, lungs, and heart. The diagnosis of this condition is always obscure, but in some cases may be made by the existence of a very large and fluctuating uterus, great obscurity in sensation of foetal movements by the examiner, excessive dyspnoea, and tendency to syncope. The diagnosis being made, the only means by which a continuance and increase of these dangerous symptoms can be avoided is the induction of premature delivery.

Previous Rupture of the Uterus, or Performance of the Cæsarean Section.—After traumatic solution of continuity in the uterine fibres perfect union may occur, and utero-gestation subsequently proceed to full term. But the violent efforts demanded from the uterine fibres for expulsion of the child make the risk of a second rupture very imminent. Where such an

occurrence has taken place, therefore, it may become advisable to avoid prolonged effort during the first stage by accomplishing cervical dilatation by means of Barnes's dilators, and during the second by the forceps or bi-manual version.

Previous Difficulty in Deliveries of large Children, or of Children with ossified Sutures.—When a woman has suffered in previous labors from one of these causes, the induction of labor two or three weeks before full term may alter the entire phase of the process, and avoid dangers for both mother and child, which would otherwise be inevitable.

Excessive Accidental Hæmorrhage, if not controlled, would prove not only dangerous to the mother, but to the child. When ordinary means do not check it, it would evidently be proper to empty the uterus prematurely, in the interest of both patients.

Tumors obstructing the Pelvis create in less degree the dangers attaching to deformity of this canal, and, for the same reasons which would warrant premature delivery under those circumstances, it would be indicated here.

This paper has already assumed such proportions that I am unwilling to detain the Society by adding to it, further than to recapitulate the cases reported, and make a few remarks upon the management of the prematurely-delivered child. My experience in the induction of premature delivery extends to thirteen operations. Of these—

- | | | | | | |
|---|------|-----------|-----|-------------|------------------|
| 2 | were | performed | for | deformed | pelvis. |
| 4 | “ | “ | “ | placenta | prævia. |
| 3 | “ | “ | “ | uræmia. | |
| 1 | was | “ | “ | excessive | vomiting. |
| 1 | “ | “ | “ | septicæmia. | |
| 1 | “ | “ | “ | threatened | death of child. |
| 1 | “ | “ | “ | approaching | death of mother. |

Of the children, ten were delivered living, of which number two died subsequently; one delivered at the sixth, and one at the seventh month. Of the mothers, one died. Of the three children delivered still-born, two were known to be dead before the operation was performed; and the mother who died was supposed to be moribund before interference was established.

One reason for the mortality of premature children is to be found in their inefficient heat-making powers. If such a child be washed, wrapped in flannels, and treated as one at full term ordinarily is, it may die when a different plan might have saved it. Prevent a child at term from having its animal heat abstracted, and it will supply itself abundantly; but to the body of the premature child extraneous heat must be added to keep it from dying of cold. To carry out this idea practically, I do not allow a prematurely-delivered child to be washed for a week or more, and always keep it during that time in a temperature of from 90° to 95° thus striving to let it feel as little as possible the change of locality as far as this circumstance is concerned. It is difficult to do this, unless every preparation be systematically made beforehand. The plan which I follow I take the liberty of now displaying to the Society. It consists in having a tin tub placed within one of larger dimensions, so that from three to four inches may everywhere intervene between the walls of the two. At the upper portion of the piece of tin which holds them together a funnel is fixed, and at the lower a spigot. Into the former hot water is occasionally poured; and, when renewal is necessary, this is allowed to flow away from the latter. In the inner tub a large supply of cotton or wool is placed, and in this the child is enveloped and constantly kept until all fear as to its power of generating sufficient animal heat has passed away. Within this receptacle hangs a thermometer which indicates the temperature. No difference should be made in the management of the child in the hottest part of the summer. Even if the thermometer ranges at 95° in the room, these precautions are essential. Where it is not convenient to obtain any thing else, an ordinary basket, with bottles of hot water laid in the bottom, and filled with cotton or wool, will answer the purpose of keeping the child warm.

But the prognosis as to the child must always be governed by its intra-uterine age. Little hope should be entertained if the delivery be brought on at or just after the seventh month; almost none should be indulged in before the seventh month, while a child delivered at or after the eighth month, provided its vital forces have not been depreciated by the abnormal state which

has necessitated delivery, has, with proper management, almost as good a prospect of life as one arrived at full term.

The end of the eighth month, i. e., the ninth menstrual epoch, is the most favorable time for the induction of premature labor.

ART. II.—*On the Physiological Effects and Therapeutical Uses of the Hydrate of Chloral.*¹ By WILLIAM A. HAMMOND, M. D., Professor of Diseases of the Mind and Nervous System, and of Clinical Medicine, in the Bellevue Hospital Medical College, etc.

THROUGH the very interesting paper read at a former meeting of the Society by Prof. Jacobi, and the various publications on the subject, the members are doubtless well acquainted with the history of the hydrate of chloral up to the present time. I shall not, therefore, dwell upon this part of the subject, except so far as it relates to my own researches. The substance is also quite extensively employed in practice in this city; and probably many who are present here this evening have accumulated a rich fund of experience relative to its action.

The investigations, the account of which is given in this paper, being in a specific direction, I trust that what I have to communicate may not prove without interest.

All the experiments which have been performed with the hydrate of chloral, whether upon man or the lower animals, go to show that it is a powerful hypnotic; but there is a difference as to whether the first effect is not the very reverse of sedative. Demarquay has shown, by *post-mortem* examinations, that it produces congestion of the brain and its membranes; but his researches are, in this respect at least, not very precise, for they do not touch upon the point of different effects being produced by different doses; nor was any accurate examination of the state of the cerebral circulation made during life. My first object, therefore, was to determine the

¹ Read before the New York County Medical Society, December 6, 1869.

influence of the hydrate of chloral over the cerebral circulation.

Experiment.—I examined very carefully, with the ophthalmoscope, the retinae of a rabbit, and ascertained that they were in a normal condition. I then injected seven grains of the hydrate of chloral, dissolved in water, into the cellular tissue, and two minutes afterward made another ophthalmoscopic examination. The vessels were decidedly increased in size, and several that were previously invisible made their appearance. The pulse and respirations were both increased in frequency. At the end of five minutes another retinal examination showed increased congestion not only of the retinae but of the optic disks. The pupils were largely dilated. After seven minutes had elapsed, the animal exhibited signs of drowsiness. The pupils began to contract; and examination with the ophthalmoscope showed that the retinal congestion was greatly lessened. At the end of ten minutes sleep was profound. The pupils were strongly contracted; the temperature had fallen four degrees; the action of the heart was less frequent; the respirations were diminished, and the retinae were of a pale-pink color, with but two or three very minute veins visible. At the end of two hours the sleep was very deep; the respirations were feeble and slow; the ears were cold, and the retinae were pale and exsanguined. After nine hours and twenty minutes the animal was found awake, and in a perfectly normal condition as regards temperature, circulation, respiration, and the condition of the retinae.

This experiment was repeated three times, and always with similar results.

Now, as is well known, the ophthalmoscopical examination of the retinae affords very exact indications as to the condition of the cerebral circulation; but, by means of an instrument devised, though in somewhat different forms, by Dr. Weir Mitchell and myself, independently of each other, we are enabled to determine the point directly. This instrument, which I venture to call the cephalo-hæmometer, I have already described at length in published communications. I will therefore now only state that it consists of a brass tube which is screwed into an opening made in the skull with a trephine. The lower end of the tube, which rests upon the dura mater, is closed with a piece of very thin india-rubber cloth; the upper end of the tube is closed with a brass cap, into which a glass tube is inserted. To this tube a scale is attached, and the brass tube is filled with colored water, so that when it is screwed into the skull, and the end touches the dura mater, the level of the liquid stands at zero. When the apparatus is

in place and properly adjusted, it is very evident that any increase in the amount of blood circulating through the brain will cause the dura mater to press with increased force against the rubber membrane, and will thus cause the liquid to rise in the glass tube. Any diminution of the circulating fluid will cause the level of the liquid to fall. We have thus a very accurate means of measuring the cerebral hæmostatic pressure.

Experiment.—I operated on a rabbit with a small trephine, and inserted a cephalo-hæmometer. As soon as the instrument was *in situ*, I injected seven grains of the hydrate of chloral into the cellular tissue. In one minute and ten seconds the fluid began to rise in the tube, and in three minutes it stood at a point an inch higher than the normal level. After five minutes it was an inch and seven-eighths higher. This was the maximum point. It now began to fall steadily, and in two minutes and fifteen seconds reached the zero, the point from which it had started. Coincident with its further depression, drowsiness came on, until, when the level was about an inch below the zero, the condition of sleep was well established. The fluid continued to fall till the level was two inches and a half below the zero, which point was reached in thirty-two minutes after the injection was made. It remained stationary about an hour longer, and then fell about a quarter of an inch lower. It was not further depressed. After the lapse of seven hours and forty minutes it began to rise, and with this change the respiration, which had been feeble, became stronger and more rapid, and the animal exhibited signs of returning animation. At the end of nine hours and twenty minutes the animal awoke, and the level of the liquid, which at the time was about half an inch below the zero, rose rapidly to the original point. It continued to rise for a few minutes, but gradually fell again to the zero. This experiment was repeated upon three other rabbits, and similar results elicited.

Up to this time it will be observed that what may be called large doses for rabbits had been employed. Desirous of ascertaining the effects of a small dose, I performed the following experiment :

Experiment.—Having adjusted the cephalo-hæmometer to the skull of a large rabbit, I injected under the skin a solution containing one grain of the hydrate of chloral. The water in the tube began to rise in a minute and forty seconds, and at the end of five minutes was three-eighths of an inch above the zero. The animal continued lively, and the pupils were dilated. The respiration and pulse were both accelerated. In half an hour the level of the liquid was at its highest—about three quarters of an inch above the starting-point. It now began to fall slowly, and in four-

teen minutes was at the zero. During the whole time of the experiment the animal showed no signs of sleep, but was, on the contrary, unusually active. Ophthalmoscopic examination revealed the existence of a state of congestion of the retinae, which lasted till the liquid in the cephalo-hæmometer had fallen to its original point. The experiment was repeated, with similar results, on two other rabbits.

Demarquay found, as one of the results of his investigations, that the hydrate of chloral in large doses produced continued congestion of the cerebral blood-vessels of the rabbits to which he administered it. His observations were made *post mortem*, and cannot, therefore, be considered as altogether reliable. The congestion was in all probability caused after death.

To be still further assured upon the point, I performed the following experiment:

Experiment.—I removed from a large rabbit nearly one-half of the cranium, and, opening the dura mater, laid bare the cerebrum and its membranes. I had thus almost the whole superior and external surface of one hemisphere exposed to view. I now injected one grain of chloral into the cellular tissue. In about two minutes the surface became redder and the vessels larger. I now injected five grains. The surface of the brain now became of a dark-blue-color, and protruded through the opening in the skull. In something less than five minutes, however, a change ensued. The color gradually changed to red, the brain sunk again below the surface of the opening, and a state of anæmia ensued. With these changes the animal fell asleep. At the end of half an hour the surface of the brain was colorless, and no blood-vessel could be perceived. After seven hours and thirty-three minutes from the first injection, the brain again assumed a pale-red color, and the animal awoke.

I regard these experiments as showing conclusively that the first effect of the hydrate of chloral is to cause congestion of the cerebral blood-vessels, and that subsequently it induced directly the opposite condition. With a small dose, this latter effect is not reached, congestion only being produced.

This action upon the blood-vessels, and the effect in first causing dilatation, and then contraction of the pupils, show that the hydrate of chloral acts with great power on the sympathetic nerve. This nerve, as is well known, supplies the radiate fibres of the iris, which by their action cause the pupil to dilate. It is likewise the vaso-motor nerve which endows the blood-vessels with contractile power. Paralysis of the

sympathetic will therefore be shown by contraction of the pupils and dilatation of the blood-vessels. The latter of these effects ensues first, and subsequently the pupils, which are first dilated through the action of the cerebral pressure, become contracted by the advancing paralysis of the sympathetic and the predominance of the power of the circular fibres. But a large dose eventually brings the heart under its influence, and likewise paralyzes the cerebral and spinal nerves. Hence, there is a less amount of blood propelled to the brain, and the vessels are not duly supplied with blood; the circular fibres likewise become paralyzed, but these, being stronger than the radiate fibres, the pupil remains immovably contracted. The general irritability of the whole nervous system is therefore much lessened.

With these views of the action of the hydrate of chloral, I proceeded to administer it to the human subject.

CASE I. *Acute Mania*.—I gave five grains hypodermically to a strong man, the subject of acute mania. He was quiet and not very irrational at the time. In a few minutes his pulse rose in frequency, his pupils dilated, and the ophthalmoscope showed retinal congestion. He almost immediately afterward became furiously excited, and, breaking away from those who attempted to hold him, rushed into the street. He was not caught till he had run nearly a mile. He remained highly maniacal for several hours.

The next day I gave him a hypodermic injection of twenty grains. He fell asleep in about forty minutes afterward, and remained so for ten hours. He had not previously slept for eleven days. During his sleep his pupils were strongly contracted. When he awoke, he was free from delusions, and altogether better than he had been for several weeks.

Two days subsequently I gave him another dose, which acted in a similarly happy manner. I may state here that both these injections produced large abscesses. The solution used was that prepared by Dr. Richardson—twenty grains to forty minims of water.

CASE II. *Cerebral Congestion and Insomnia, the Results of severe Mental Application*.—A dose of forty grains of hydrate of chloral was administered to a gentleman, twenty-five years of age, suffering from cerebral hyperæmia and wakefulness. He had not slept any the night previous, and only about two hours a night for several weeks. The retinae were highly congested and the pupils dilated. He took the medicine at ten o'clock P. M., and immediately went to bed. His mother, who sat by his bedside anxiously watching him, said that in less than half an hour he was sound asleep. He continued to sleep steadily till ten o'clock the next

morning. At 12 M., he visited me. He had eaten a hearty breakfast, and felt in excellent condition. I examined his retinæ with the ophthalmoscope, and found that the congestion had disappeared, as had also the vertigo and ringing in the ears with which he had suffered. He slept well the next night, and has done so every night since, without medicine of any kind.

CASE III. *Cerebral Congestion and Insomnia from long-continued and severe Mental Application.*—A gentleman, forty years of age, had for several weeks been unable to sleep more than an hour or two toward morning. He had flashes of light before the eyes, ringing in the ears, a flushed face, vertigo, and a sense of tension across the brows. The retinæ and optic disks were congested. When he attempted to read, the letters ran into lines, and were indistinguishable.

At 10 P. M., I gave him a dose of forty grains of hydrate of chloral dissolved in half an ounce each of water and syrup of orange-peel. At first he complained that all his symptoms were aggravated; but within forty minutes he fell into a sound sleep, from which he did not awake till eight o'clock next morning. He then felt relieved of all his unpleasant symptoms; but, fearing that he would not sleep that night, he took, on his own responsibility, another dose of forty grains. Sleep ensued in half an hour, and lasted seven hours and a half. Since then, ten days, he has remained well, and has slept seven hours every night.

CASE IV. *Cerebral Congestion and Insomnia, with great Nervous Irritability.*—A lady, fifty-four years of age, was sent to me by my friend, Dr. Hubbard, of Bridgeport, Connecticut. Under the use of bromide of potassium, oxide of zinc, and the constant galvanic current, she improved very much in health, was able to sleep well, but was still affected with great distress about the region of the solar plexus. She was unable to describe this feeling, except that it was always present and rendered her irritable and restless. I gave her a prescription composed of one drachm of hydrate of chloral dissolved in three ounces of water, and directed her to take one-third the quantity three times a day, the last dose being just before going to bed. Two doses produced such an unconquerable desire for sleep that the third dose was not taken. She slept soundly all night, and the next morning the distress at the epigastrium was gone. The third dose was taken in the course of the day—since then, seven days, she has had no return, and continues to sleep well.

Besides these cases, I have given the hydrate of chloral in several others, similar to them in general features, and always with satisfactory success.

CASE V. *Chorea.*—A young lady, fifteen years of age, came under my care on the 10th of November, to be treated for chorea, from which she had suffered since about the 1st of June. The irregular actions of the muscles were limited to one side of the body, and chiefly to the arm. Her general health was good, and her menstrual functions regular. I prescribed for her fifteen grains of hydrate of chloral, to be taken three times

a day. After three doses she was much more quiet; she continued gradually to improve, until, on the 16th, she was entirely free from any spasmodic movements. Subsequently she took seventeen doses of ten grains each. During the time she took the remedy her sleep was more profound and of longer duration than it had been.

CASE VI. *Chorea*.—A boy, aged twelve, having suffered from chorea for eleven months, was brought to me November 12th, to be treated. The affection was quite general in its character, implicating the muscles of the face, tongue, and all four extremities. I began by administering the hydrate of chloral in doses of ten grains, three times a day. No decided effect being produced, I increased the doses on the 15th to fifteen grains. After continuing these doses, which had the effect of exciting drowsiness, till the 20th, without observing any decided effect upon the disease, I increased the quantity to ninety grains daily. Under these doses he slept all night and a good deal through the day, but when he was awake the muscular agitation was about as bad as at first; I therefore discontinued the administration.

CASE VII. *Epilepsy*.—A boy, aged thirteen, to whom I had given the bromide of potassium, for epilepsy, without any material result, was submitted by me to treatment with hydrate of chloral. When the administration was begun he was having one or more fits every day. The hydrate of chloral was first given on the 21st of November, at 9 A. M., in a dose of twenty grains. At 2 P. M. he had a fit; at 3 P. M. he took twenty-five grains, and afterward he fell asleep; awaking about 9 P. M., he took another dose of twenty-five grains. He slept all night, and on awaking about 7 A. M. took twenty-five grains. At 2 P. M. the dose was repeated, and again at 9 P. M. He slept at intervals through the day and had no fit. Since then he has regularly taken seventy-five grains daily, and up to this time, December 6th, has had no fit. The influence of the remedy in controlling the disease is therefore very manifest.

I have prescribed it in other cases of epilepsy, but, as the fits were not of such frequent occurrence as in the last case, I have not yet satisfied myself as to its efficacy.

I am also using it with decided benefit in a case of muscular tremor, simulating paralysis agitans, and in two cases of neuralgia.

Though my experience with the hydrate of chloral has not been very extensive, I am satisfied that it is a remedy of real value in a number of diseases of the nervous system.

ART. III.—*Notes on the Phosphuret of Zinc.* By MEREDITH CLYMER, M. D.

About two years since M. Vigier, of Paris, proposed a new preparation of phosphorus—the phosphuret or phosphide of zinc, Ph. Zn. 3. Owing to the uncertainty of the preparations of phosphorus in use, and their difficulty of administration, the new combination was well received, and extensively prescribed, with alleged success, in various forms of nervous disorders where phosphorus is supposed to do good. Having given it in a number of appropriate cases, I have found it generally so illy borne as to be obliged to abandon it. It caused almost invariably either serious gastric or intestinal troubles, or both—nausea, vomiting, offensive garlicky eructations, or diarrhoea, with large fecal evacuations, or colic. In looking over the transactions of the Paris Société de Therapeutique, I notice several discussions upon the remedial value and tolerance of the article; and the experience of many of those who have tried it agrees so entirely with my own, that I propose to give a brief of them, with the hope that others in this country who have used the remedy may be led to publish their observations.

Dr. Moutard-Martin had used it in two cases. In one of ataxy of the lower extremities, with inability to walk, violent pains in the thighs and legs, and no ocular troubles. Two pills of (probably) one-eighth of a grain each were given at meal-times in the course of the day; gastric and intestinal colics soon happened, and on the next day were so violent that the medicine was discontinued for thirty-six hours, when its administration was resumed with a like result. Three pills were given the following day, when the pains grew so much worse that it was abandoned. The patient thought that he had a little more strength in his legs. The second case was one of progressive paralysis, and here the same intolerance was shown, and it was necessary to stop the medicine.

Other instances, where similar gastric and intestinal disturbance followed the administration of the phosphuret, even in smaller doses, were mentioned. Dr. Isambert related a case of paraplegia following myelitis where, in the dose of two milligrammes ($\frac{1}{32}$ of a grain), it aggravated the general symptoms,

caused intolerable lumbar pains, and there was rectal incontinence, with large fecal discharges. Dr. C. Paul had given it in a case of supposed disease of the annular protuberance, resembling paralysis agitans, with the effect of greatly increasing the trembling. Dr. Gueneau de Mussy tried the phosphuret, in doses of four milligrammes, in a patient with mercurial trembling, who had been treated without marked benefit by sulphur baths, etc. Here the trembling was aggravated, and convulsive movements came on, which continued during sleep. In another instance of the same disorder, where the trembling involved all the limbs, the exhibition of the phosphuret was followed by immediate improvement, which, however, soon became stationary, notwithstanding the remedy was persevered with. A quick and permanent cure followed a return to the sulphur, etc.

Professor Gubler stated that he had given four pills of the phosphuret daily to two patients, who were large eaters, with locomotor ataxy; in neither was there any gastric disturbance, but both had diarrhœa. No effect on the genital functions, which had been abolished for some time, followed. Dr. Gubler observed that the facts which we had concerning the phosphuret of zinc at the present time showed that in some cases it was tolerated, while in others it was not. Was this due to a chemical or a physiological cause? Did the drug bring on a change in the gastric juice, or was its action on the mucous membrane of the stomach? In trying to decide this point he had added phosphuret of zinc to several kinds of mucus, and he had always seen the same change which albumen produces. Previous experiments had satisfied him that the alkaline state of the liquids experimented on had nothing to do with the reactions noticed. Phosphuret of zinc added to manufactured pepsin, as well as to natural pepsin, caused a disengagement of hydrogen. To understand the influence of the phosphuret upon digestion, he put (1) into one tube the salt, pepsin, and raw meat; and (2) into another the salt and raw meat. In the latter the meat was gradually dissolved, and after a while the liquid became brown and viscid; while in the first there was no apparent change in the meat. These experiments seemed to show that the phosphuret of zinc hindered the pepsin from

dissolving the meat; and we may conclude that the action of the salt varies according to the amount of pepsin present. In those persons where there is but little gastric juice secreted, to small eaters, the drug cannot be given without giving rise to gastric troubles and to diarrhœa; while it may be supported by large eaters. It would, therefore, seem more rational to administer it between meals. Dr. Dujardin-Beaumetz, who has had large experience with phosphorus as a remedy, stated that he had known patients who could not take phosphuret of zinc either at or between meals; while others again bore well twelve of Vigier's pills daily ($1\frac{1}{4}$ grains of the phosphuret).

Dr. Gubler, at one of the meetings of the society, said he had given to an anaphrodisiac patient, who was constantly trembling with cold, with a blue skin, phosphuret of zinc for twenty days, without any therapeutic or physiological effect. At the end of that time he administered ten centigrammes of powdered digitalis, which was soon followed by excitement and considerable increase of temperature. Were these phenomena caused by the digitalis, or were they not probably due to the accumulative influence of the phosphorus? The possibility of accumulative and explosive effects from the prolonged exhibition of phosphorus, or its preparations, is a matter of much moment, and should be borne in mind when it is given; and suggests the propriety of intermitting the use of the drug after a few days of administration, otherwise irremediable tissue-changes (fatty degeneration) may be suddenly developed. Proust states that rabbits fatally poisoned by phosphorus always die very much excited. He gave the phosphuret of zinc to dogs, for twenty consecutive days, to bring on steatosis of the liver; as soon as they had taken eight centigrammes (a little more than one grain), they died within twenty-four hours.

On the other hand, many examples are mentioned where the phosphuret of zinc was tolerated and seemed to do good. Dr. Pidoux, joint author with Trousseau of the *Treatise on Therapeutics*, relates a case of locomotor ataxy, treated with phosphuret of zinc, in which erections absent for nine months returned, and coördination was sensibly improved, and there were neither gastric nor intestinal troubles. Dr. Gueneau de Mussy

has reported more than one case of mercurial trembling cured by it, and several cases of locomotor ataxy, where he gave two pills of four milligrammes each before meals, which improved, and the medicine was tolerated. A case of disease of the cerebellum, under the care of Dr. C. Paul, seemingly got better under the use of two pills daily, of eight milligrammes, though at first they caused vomiting, which passed off. Isambert cured two cases of mercurial trembling with it, and Féréol reports one case of cure.

Dr. Gueneau de Mussy believes that phosphorus never does good, so long as there is any congestion of the nervous centres. Dr. Gubler, who is a high authority among French therapeutists, says that phosphorus seems only to be absorbed under the form of phosphuretted hydrogen gas Ph. H_2 (hydrogène phosphoré); and that we should use alone such preparations as will give rise to it, or to free phosphorus itself. All others are inert. The salts of phosphoric acid, he says, pass away with the urine undecomposed.

Notwithstanding the high authority of Dr. Gubler, I cannot but think, from no inconsiderable experience with it, that phosphoric acid and its salts often do much good in many disorders of the nervous system, and as a eutrophic generally. The following formula for its administration has been proposed by Dr. Hoffman, of Paris. Take of *powdered salep*, eight grammes, mix into a paste with cold water, then add enough water to make one litre, and boil; add *laudanum*, four grammes; *syrup of tohr*, seventy grammes; *laurel-water* five grammes; dilute *phosphoric acid*, four to eight grammes. The dose is a wineglassful.

It must be recollected that the administration of phosphoric acid long continued will produce all the symptoms of poisoning by phosphorus, and will destroy hæmoglobulin.—(*Archives de Physiologie Nor. et Path.*, vol. i., pp. 99 and 579.)

The phosphuretted oil of the French Codex, of 1866, is so uncertain a preparation, from the defective process given, that several new methods have been proposed, which, he thinks, makes it more uniform. Dr. Tavignot has published another formula, which, he claims, is surer than that of Mehl.—(*Revue de Thérap. Med.-Chir.*, 1869, p. 345.)

Schmidt, a pharmacist of Strasburg, prepares capsules of phosphuretted oil. For one hundred capsules he puts forty grammes of the oil of sweet-almond into a bottle of sixty cube centimetres capacity, previously washed out with alcohol, and dried in an oven; one decigramme of phosphorus is then weighed, and dried rapidly on silk paper, and is dropped into the oil; the bottle is quickly stoppered, and placed in a water-bath, which is heated to 80° C (176 Fahr.); in from fifteen to twenty minutes the phosphorus is dissolved; the oil is allowed to get cold, the bottle remaining, still stoppered, in the bath; the capsules are then filled and closed; each one contains forty centigrammes of oil, or one milligramme of phosphorus. —(*Revue de Thérapeutique Medico-Chirurgicale*, 1869, p. 291.)

Clinical Records from Private Practice.

I.—*Report of Three Cases treated with Oxygen.* By GEO. H. BUTLER, M. D., New York.

CASE I.—John B., aged fifteen years; has been to school until lately; was obliged to leave on account of health. First saw the patient May 26th; he then came to me with his mother, who was very much concerned about a deformity of his back, which she says a doctor told her was “disease of the spine,” and advised him to wear an instrument for support.

He was extremely emaciated, very weak, could not bear the least exertion; his mother finds the greatest difficulty in inducing him to take exercise, though formerly he was very active and fond of all outdoor sports. His face is pale, the surface cold and dry, eyes dull and heavy, bowels constipated. The pulse is weak and slow, appetite very bad; goes sometimes whole days without eating any thing; lies in bed most of the time.

The deformity in his back seems to be due to a general relaxation of both muscles and ligaments. A thorough examination reveals no organic disease of spine; the curvature can be swayed to either side. His walk is an unsteady, shuffling, sliding gait; the bones of the spine and pelvis seem to slide upon each other, producing the appearance of deformity.

Believing this to be a case of most complete general debility, I advised the use of oxygen after the manner recommended by Dr. A. H. Smith, which he took daily, for the period of sixteen days, at the end of which time he was fully recovered; could play at the game of "base ball" for half a day at a time, without experiencing more fatigue than ordinarily attends such vigorous exercise in health.

He has gained much in strength and weight, and expresses himself as feeling quite well. The deformity has entirely disappeared. In addition to the oxygen, in this case was prescribed iron and aloes to act upon the bowels.

CASE II.—James W., aged fourteen years; anæmia; has been an errand-boy until he became so sick that he could no longer do his work. Came to me on the 31st of August; says he has felt unwell for a long time. About four weeks ago was obliged to give up work, since which time he has been failing more rapidly, and is now unable to sit up all day.

He is extremely emaciated; complexion pale and sallow, with that peculiar yellowish hue so often occurring in this complaint. The lips, tongue, and conjunctivæ are pale; the eyeballs are prominent, and of a peculiar lustre. The pulse is full and frequent, though soft and easily compressed; the heart beats tumultuously and irregularly on the slightest exertion, and can be heard over any part of the chest; the motions of its beats can be distinctly seen through the thin walls of the chest.

He becomes embarrassed in breathing on running or ascending stairs, and has palpitation of heart a good deal; there is dizziness and sometimes fainting on rising from the recumbent or sitting posture. The general surface is cold and clammy; there are night-sweats and cough; there is a puffiness about the face and eyelids, the tissues in general seem relaxed, the bowels are costive, and the digestion bad, appetite very poor and capricious, eats very little, the smell of food often causing nausea.

August 31.—Commenced to take oxygen, and continued uninterruptedly to take four gallons per day, till the 8th of September.

September 8.—The heart's action was much improved, the appetite better, he has also gained much in flesh and strength.

September 11.—Has made rapid strides toward health, feels quite strong, heart-beats still improving.

September 14.—Still improving, sits up all day and takes exercise without fatigue ; color to face returning.

September 18.—Heart beats naturally ; he goes out to play without experiencing fatigue, feels strong as ever, has good color in cheeks, has a good appetite, and feels perfectly well.

CASE III.—Miss W., aged eighteen years, anæmia ; is a shop-girl, works at sewing, is confined in-doors all day. I first saw her on the 8th of September ; she had then been failing for some time back ; about six weeks ago left work, thinking a rest was all she required to restore her to health ; but, on the contrary, has been failing ever since, is now very weak, cannot bear much exertion, and feels indisposed to take any exercise. Appetite is very poor and capricious, the sight of food often nauseates her.

There is a general pallor of the skin, the conjunctivæ, lips, and tongue are extremely pale ; there is a peculiar white and pearly lustre of the eyeball, showing a decided impoverishment of the blood ; the characteristic yellowish, wax-like appearance of the face, so frequent in chronic anæmia, is well marked in this case.

There is a general coldness to the surface, the skin is dry and harsh to the touch, the circulation is weak, the pulse irregular and rapid, though soft and easily compressed. The heart's action is irregular and weak, much increased in frequency by exercise.

The respiration is short, does not expand the chest to more than half the ordinary extent, but becomes hurried and difficult under the slightest exertion ; the patient complains of dizziness, and sometimes fainting on rising from the sitting or reclining position. The catamenial flow recurs at the regular periods, though scanty and colorless ; there is œdema of the feet and the bowels are constipated.

September 8.—Commenced taking oxygen and continued its inhalation daily until September 17th ; I also prescribed aloes and sulphate of iron pills to correct the constipation of the bowels.

September 11.—Was feeling stronger, there was an improvement in the circulation, the heart stronger and less irregularly; the lips and conjunctivæ show a decided change in color, though as yet they are quite pale; the appetite is greatly improved.

September 14.—Still improving in strength and general appearance; the mucous membranes are returning nearer to their natural appearance, and the pulse feels stronger and more regular.

She missed the oxygen during the time from the 16th September to the 20th, yet she has been steadily improving, was able to leave the city on a visit to her friends, has been able to undergo a good deal of exercise without suffering much fatigue, and seems now quite well, though yet a little pale.

There was a marked increase in the temperature of the surface in the last two cases after each inhalation; the thermometer showing an increase on the tongue of about two and one-half degrees, and two degrees in the hand in each case.

II.—*A Case of External Perineal Urethrotomy.* By S. L. COLEMAN, M. D., Uniontown, Alabama.

W. A., aged fifty-seven. The patient says he had gonorrhœa about twenty years ago, from which he recovered, without any perceptible sequelæ, and remained in good health until the fall of 1864; then, while in the Army of Virginia, he was taken with general anasarca; was sent home, and, after recovering from his affliction, he noticed that his stream of urine began to diminish, and, passing his finger along the trace of the urethra, a small, hard tumor was discovered. His trouble continued to increase, and in 1866 he applied to a physician, who made an effort to introduce an instrument, but was foiled in all his attempts. He continued in this state, suffering a great deal on micturition.

In 1868 he moved from Georgia to Alabama, and applied to my preceptor, Dr. W. O. Hudson, noticing in the mean time that his scrotum began to enlarge. Dr. Hudson diagnosticated the enlargement as hydrocele, tapped it, getting about four ounces of water, but failed to introduce any instrument into the bladder.

On May 10th he applied to me; I found him suffering

from hydrocele, three strictures of the urethra, two of which I was able to pass, but the third was impervious to any instrument. I had no accurate means of ascertaining the exact seat of the strictures, but supposed, from the distance the instrument passed before meeting with obstruction, that the first was just posterior to the fossa navicularis, the second about the middle of the spongy portion, and the third at the junction of the bulbous and membranous portions of the urethra; and upon further inspection I found a small, hard tumor in the perineal region, growing from the bottom of the urethral track. This tumor, *per se*, was entirely void of sensibility, but, when pressed greatly against the urethra, internal pain was felt. I performed paracentesis scroti, getting five ounces of water; then injected the scrotum with a strong solution of iodine. The patient returned to me in about two weeks, saying that for several days there was considerable inflammation resulting from the iodine. All inflammation, however, had subsided then, and the scrotum appeared to be of natural size.

I found the perineal tumor growing very fast, and his stream gradually diminishing, and accompanied with a great deal of pain. The old man's condition was rapidly becoming very alarming, his constitution already shattered to a grave extent. I saw no other means of relief for him except the "external perineal section." I at once determined upon this operation as the last resort, and commenced a strict regimen to prepare his system for the operation. On the 10th of July, his system was in a fine condition; and I invited the medical fraternity of Uniontown and Fannsdale to witness the operation, viz., Drs. R. D. Ashe, J. W. Langhorne, D. E. Borger, J. Bradfield, and —Whiteman.

The patient was put in the position for lithotomy, and anæsthetized. The perineal tumor occupying that portion of the perinæum through which it was necessary to make the incision, we decided that it must be dissected away before we could proceed. Prof. J. W. S. Gouley's guide-staff was introduced to the last stricture. The tumor being dissected out, was found to originate in the floor of the urethra, just at the seat of stricture, weighing seven drachms. After the tumor was removed the guide-staff could be felt; and, finding the groove, I

entered the urethra, making a vertical incision downward, until I had divided the stricture thoroughly. The guide-staff slipped into the bladder with perfect ease, and, the stylet being withdrawn, about four ounces of urine passed. The catheter was left in the bladder, and the patient given two grains of opium.

My kind friend Dr. Whiteman, who lived near the patient, agreed to visit him with me, and in my absence if necessary. He saw him in the afternoon, and found him doing very well. He was sent for in the night, and found him with considerable fever, saying he had a chill, and complaining of great pain in the perineal region. Hot cloths were placed over the perinæum, and two grains of opium given.

July 11.—Rested well after the administration of the last opium; is free from pain, stupid from effects of opium, pulse rather weak; we left ten grains calomel and carb. of soda, to be taken at bedtime, and ordered him put on ten drops of tinct. ferri chloridi in half ounce of whiskey, three times a day.

July 12.—Rested very bad last night, pulse 38, skin moist and pleasant, slight nausea and vomiting, no desire for food; still passes urine through external opening; bowels acted well last night; chicken-broth ordered, and the iron and whiskey doubled.

July 13.—Rested well last night, and is free from pain now; pulse 38, urine still passing through external opening; allowed catheter to slip last night, and we ordered it to be removed altogether; I found no trouble in reintroducing it; less nausea, but still no desire for food; iron and whiskey continued, with three grains of quinine, three times a day. We continued our visits every day for two weeks, and his general health improved gradually under the influence of the iron, quinine, and whiskey, but the urine continued to pass through the external opening. Having perfect control over the sphincter muscle, I taught him how to introduce the catheter; and, whenever he felt a desire to urinate, he drew off the urine through a gum-elastic catheter. We hoped by this means to keep the wound free of urine; but, notwithstanding every precaution, some would escape through the external opening; and the consequence was, the patient recovered with a fistulous track to the opening in the urethra.

I brought the patient to my house, where I could see him as often as I desired; and about a month after the operation, with the assistance of Drs. Ashe and Borger, I pared the edges of the fistula to the urethra, and sewed them together with a silver wire, cautioning the patient not to allow a drop of urine to pass except through the catheter; but, failing to carry out my directions, the edges did not unite entirely. With my father's assistance, in two more like operations, we succeeded in obliterating the fistulous tract completely; and now the urine is passing through its normal canal, and a No. 12 steel sound is introduced by the old man with all ease twice a week. No more water has accumulated in the scrotum, and he says he is enjoying better health than he has for several years.

Proceedings of Societies.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Stated Meeting, December 6, 1869.

DR. GEORGE T. ELLIOT, President, in the Chair.

THE PRESIDENT announced the admission of the following new members: Drs. George G. Wheelock, James Forrester, and James B. Hunter.

The reports of the Committee on Medical Intelligence and the Committee on Diseases were read.

THE PRESIDENT announced the receipt, from the Kings County Medical Society, of the circular letter and petition in favor of naval reform, which we printed in the December number of the JOURNAL, p. 335. The Comitia Minora recommended it for general signature.

He announced, also, that arrangements had been made for regular semi-monthly meetings of the Society throughout the season, and that for nearly all of them papers were already engaged.

HYDRATE OF CHLORAL.

DR. WILLIAM A. HAMMOND read a paper *On the Physiological Effects and Therapeutical Uses of the Hydrate of Chloral*, which we print elsewhere.

Dr. S. CARO related a case in which he had employed this agent. A feeble old man, of eighty-six years, with senile paralysis, had suffered from a complete oblique inguinal hernia on the right side since the age of twenty-four, and on the left side since a few years later, always wearing a truss except at night. On retiring at 10 p. m., November 1st, the intestine came down and he could not return it; and after six hours Dr. Caro was hurriedly summoned, at $\frac{1}{2}$ a. m., November 2d. The left hernia was found in the inguinal canal, somewhat strangulated, but easily reducible; the right was in the scrotum, strangulated, and obstinately resistant to all efforts at reduction. After a long and unsuccessful trial of taxis, the doctor a part of the time lifting the body by the legs thrown over his shoulders, strong belladonna fomentations were applied, and frequent doses of castor-oil administered. The oil was vomited and the belladonna did no good. At 10 a. m. the patient was chloroformed to anaesthesia, but reduction was still impossible. He was then left for eight hours under the belladonna fomentations, when a tobacco enema was given, with no benefit.

Eight hours after this, and twenty-eight from the first discovery of the strangulation—the patient meanwhile growing weaker and more restless, with increasing abdominal pain and anxiety—recourse was had to the hydrate of chloral. The specimen used was prepared by E. Schering, of Berlin. One gramme and a half, equal to twenty-three grains, was dissolved in mucilage and exhibited by the mouth. Almost immediately the patient assumed a cadaveric aspect, and appeared to be *in articulo mortis*. But, alarming as were these symptoms, the doctor at once again resorted to manipulation of the intestine, and, to his surprise, found it was easily returned within the abdomen, twenty-five minutes after the chloral hydrate had been taken. But how to resuscitate the moribund patient was now the doctor's concern. He himself felt extremely doubtful of the result; and his perturbation was by no means calmed by the family, who stood around charging him with having killed the old man, who was fast losing strength and growing cold. With no electric battery at hand, he was almost in despair; but a Davidson's syringe and a bottle of brandy gave him courage. The brandy, diluted with

milk, was freely injected; and in twelve hours the patient had revived.

The dose of the chloral hydrate administered was but three-fifths of that prescribed by Liebreich. Had the full dose been given, what would have been the result? Or was the collapse of the patient due not alone to the chloral, but to the cumulative action of the other medicines? This seemed improbable, as the chloroform had been given twelve hours, and the tobacco eight hours, before. Perhaps the patient's advanced age and weakness rendered him specially susceptible to the prostrating action of the drug. The case at least showed the necessity of using great caution in its administration, until the discovery of some safe and efficient antidote to its excessive action.

THE PRESIDENT referred to a case of puerperal fever lately occurring in Bellevue Hospital, and still under treatment, in which he had been employing the chloral hydrate. A young woman, confined in natural labor on the 24th of November, had soon begun to complain of some pain in the stomach, and acute pain in the left thigh and calf of leg, exciting apprehensions of phlegmasia dolens, which were happily not realized. Lochia scanty; milk not well secreted. By the 29th the patient had developed such febrile symptoms, with abdominal swelling, pain, and tenderness, that it was deemed prudent to isolate her and put her upon morphia, although peritonitis was not frankly declared. December 1st, she looked badly; the belly was quite as large, from tympanitic distention, as it had been at full term; pulse very frequent; temperature high. Looking about for a remedy that would meet the indications of relieving the pain and abating the temperature, the chloral hydrate seemed to promise both, and was exhibited by the mouth, with a commencing dose of ten grains, repeated in two hours. The house-surgeon, Dr. McLean, attended personally to its administration, watching the effect of each dose, and devoting himself day and night to the case. The action of the drug had been as favorable as the speaker had anticipated; the fever had rapidly declined, and the patient was approaching convalescence. The case would be more fully reported when complete.

PREMATURE DELIVERY AS A PROPHYLACTIC.

DR. T. G. THOMAS read a paper on *The Induction of Premature Delivery as a Prophylactic Resource in Midwifery*, which we publish in full in another part of the JOURNAL.

THE PRESIDENT had listened to the paper with great interest, having been himself a pioneer, in this country, in the use of the douche and of Barnes's dilator for the induction of premature labor. Another appliance, which he exhibited to the Society, the dilator of St. Tarnier, promised to be of the greatest utility. It was simply an elongated sac of very thin rubber, to be introduced, like Barnes's, by the aid of a sound, and connected at one end with a flexible tube for filling it with water from a syringe. Its great merit lay in the thinness of its walls, rendering it easy of introduction where even the smallest of Barnes's dilators would not pass; so that it might at least prepare the way for these, and save waiting for the effect of the douche or other more tedious procedures. Like all rubber instruments, it should be smeared with glycerine, and not with oil, before insertion. In a large class of cases, where time was not a matter of great moment, the simple introduction of a gum-elastic catheter between the membranes, to be left till it should stimulate the uterus to contraction, as employed by Dr. Thomas in one of his cases, would prove all that was necessary. But this would not do in urgent cases. For these the means at our command would insure delivery almost invariably within two hours.

The speaker had, several years ago, in a paper before the Academy of Medicine, ventured to predict that the time might come when improved methods might justify the induction of premature labor, even as a matter of professional convenience between the accoucheur and his patient; when a lady, having fixed her time and engaged her physician, perhaps from a distant city, would be ready to meet the engagement, at such day and hour as was deemed most feasible. That time was certainly approaching. But, powerful for good as were these means in the hands of men of experienced skill, sound judgment, and high principle, they were none the less potent weapons of evil when wielded by the ignorant or the unscrupu-

lous; and there was no doubt that they would often be prostituted to criminal purposes.

It was an important question, how often the physician was to relieve a woman, say at the seventh month, in cases where the child's life was thereby subjected to great hazard, in order to diminish that to the mother. This might be found oftenest a matter of perplexity in the uræmic cases. In the speaker's practice, some years ago, a pregnant woman had shown albuminuria with a diminished excretion of urea, progressive anæmia, and every symptom threatening death from uræmic poisoning. Premature labor was induced, and the child died. The woman was shortly *enceinte* again; the same symptoms came on, and she applied for the same relief. The operation was delayed some three weeks, till her death seemed imminent, when she was again delivered of a child doomed not to live; yet possibly only again to subject herself to the same conditions. When women, as in this case, develop a reckless indifference to the fate of their offspring, what must be the physician's attitude? Has any woman a right to place herself again and again in a situation which experience has taught her may compel the sacrifice either of her own life or of her child's, or of both?

The speaker referred to Dr. Thomas's eighth division, "threatened death of the fœtus," and urged the greatest caution in interpreting the signs supposed to indicate progressive foetal weakness—that the frequency and force of the heart-beats, for instance, must be regarded in comparison not with an assumed uniform standard, for there ~~was~~ none, but with a standard determined by careful and prolonged observation of the individual case in health, of course taking due account of the effects of changes of position in utero, etc.

As to pelvic deformities, the obstetrician of the future would doubtless find reason to revise our measurements, and to differ widely from the dogmatic rules of our text-books, assigning the respective domains of the forceps, of version, of craniotomy, etc. The bimastoid diameter of the foetal head was probably too great as commonly given. The speaker had lately delivered a living child through a pelvis with a true conjugate measurement of two and a quarter inches. The

child was delivered by forceps, and was breathless at first, but was revived. On applying the callipers to its head, they showed the grounds of this happy result—a bimastoid diameter of only two and one-sixteenth inches.

In deciding the question of inducing premature labor, there was one point of which we could never be certain—the length of the child's intra-uterine life. The interval possible between insemination and conception, and again that between conception and the last catamenial flux, had often led us all into error.

The Society adjourned.

Adjourned Stated Meeting, December 21, 1869.

DR. GEORGE T. ELLIOT, President, in the Chair.

ARTERIAL SEDATIVES.

DR. JOHN C. PETERS said that he had been requested to give the results of his personal experience and observation with regard to this class of remedies, and that he should do so in a somewhat desultory way, without having arranged the matter of his remarks. Before speaking of special drugs, he would say a few words about arterial sedatives in general, and the indications for their exhibition.

Arterial sedatives might be divided into those which act directly upon the vaso-motor nerves and the motor nerves of the heart; and those which affect them indirectly by modifying the constitution of the blood. Those of the latter class were oftenest demanded; for most frequently the heart owed its increased frequency, or force of pulsation, to the irritant character of the blood coursing through it. This irritant character might be due to absorption of miasmatic, somatic, or other poisons, or to retention of the products of physiological or pathological disintegration. For example, the formic and acetic acids of the perspiration might be thrown back into the circulation by the action of cold upon the skin. The lactic acid of such muscles as lay near the surface might be similarly repelled; and there was probably enough of this in the sys-

tem to almost acidulate the blood. Hence it was reasonable to conclude that many inflammatory affections, like pneumonia, for instance, partake much oftener than is commonly recognized of a rheumatic character, and require, of course, such arterial sedatives as act upon the skin and kidneys to eliminate the retained acid, as well as alkalis to neutralize it. In the contagious fevers, on the other hand, such as scarlatina, typhus, etc., the blood was excessively alkaline, and the urinary and other secretions rapidly became alkaline and putrescent. Here the cooling vegetable acids, or phosphoric and other mineral acids (as the dilute sulphuric preferred by Dr. Flint in typhus), should be employed. It would almost seem as if we were going back to the middle ages, and the days when all diseases were accounted either acid or alkaline. Perhaps those old theories had in reality some elements of truth in them which we were now too prone to ignore.

In inflammations and fevers we should consider the immense destruction of tissue going on in every part of the body, and the effect of this in throwing a great amount of effete matter into the blood. Eliminant sedatives should, therefore, not be forgotten in their treatment. We should remember also, that, in inflammation, the walls of the capillaries are apt to become so relaxed as to allow the passage through them, not only of the pure nutritive blood-plasma, but also of these products of disintegration and even of the blood-corpuscles themselves, thus exciting fresh irritation. This might extend to the lymphatics (which should normally convey away from the tissues only the superfluous and unappropriated plasma), from their having forced upon them the unwonted office of carrying such irritant materials; and lymphangitis might be the result. Phlebitis and pyæmia might arise in a similar way. In our choice of sedatives, we should seek as far as possible to avert these dangers.

Since, in inflammations, the inflamed part acted like a furnace, and heated the blood passing through it till it had raised the whole volume of blood several degrees above the normal standard, refrigerant sedatives were called for—the simple salines, cooling drinks, cool air in the room, and possi-

bly the application of cold water externally, although this last the speaker did not himself employ.

Tonics and stimulants might almost be accounted arterial sedatives in low forms of fever and in the early stages of convalescence, since they served to diminish the irritability of the circulatory system, by improving its tone. It was a curious illustration of the tendency of the human mind to run to extremes, that, upon the known value of stimulants in the conditions just named, Todd, Anstie, and their followers, had based the doctrine, which they were still strenuously asserting, that stimulants were of use in every form of pyrexia; that the more sthenic the inflammation, and the hotter the fever, the more freely should we pour in alcohol. The speaker had, in 1842-'43, given some attention to the effect of alcohol upon the hectic fever of tuberculosis. He had then been told that tubercle was rarely found in the *post-mortem* examinations of those who died from excessive drinking, and this statement seemed to be sustained by a large number of cases collected by himself and others. Still he had felt chary about the employment of alcohol in consumption, and, in the few cases where he had given it, it was oftener to his regret than to his satisfaction—not that he now believed this remedy without value, but that he had not then known how to restrict its use.

From the above considerations, it was evident that it would not answer to have only one favorite arterial sedative, and use it exclusively in every case of strong, or frequent pulse: but the cause of the circulatory excitement must be carefully made out; all its attendant conditions regarded; and the right remedy selected to meet the special indications.

DR. PETERS now related *in extenso* his observations upon the action of special remedies, interspersing them with reminiscences of hospital experience twenty or thirty years ago in Berlin, Vienna, Leipsic, and our own city. Our space limits us to brief mention of a few points.

Tartar emetic had been the favorite sedative with his first preceptor, who used it almost exclusively, though with a master's hand, and was wont to say that he got as much good music out of it as Paganini did out of his one-stringed fiddle. How it was used, or how extensively, need not be dwelt upon.

A glance over Wood's Practice would tell the story. The aim was, not to produce nausea or to prostrate the patient, but gradually to promote the secretions; and, with care, the drug might be pushed even to the extent of inducing diarrhoea and sweating, without producing nausea.

Some twenty-five years ago, the speaker had for many months watched the effects of *digitalis* as prescribed by Schönlein in his wards at the Charity Hospital, Berlin. Schönlein was as famous in Germany as Trousseau in France, and he used *digitalis* as freely as did Trousseau *belladonna*, declaring that he should hardly know how to practise medicine without it. He always pushed it until the scanty, clear, dark-colored, acid urine gave place to an abundant excretion with copious deposit. He was never satisfied with the "crisis" through the skin alone, but forced it through the kidneys also; and when the desired effect was brought about, and the medicine suspended, the diminished temperature and less frequent pulse would continue, for six days or thereabouts. Until lately the speaker had attributed these effects to the *digitalis*; but Niemeyer's recent teachings about these crises in the natural history of pneumonia had led him to revise his opinion. Schönlein's clinics were constantly illustrated by the test-tube and the microscope, which were very skilfully used, in spite of the imperfect knowledge of that day. Again and again had the speaker seen erysipelas diagnosticated from rheumatism by the urine alone.

Aconite Dr. P. had employed almost daily since 1839; indeed, as a boy, he had been as familiar with it as most lads are with castor-oil and ipecac. Reducing the circulation, it promoted especially the secretion of the skin, and might be assisted in this action by the addition of antimony or other diaphoretic sedatives. *Digitalis*, on the other hand, was most useful where we wished to act on the kidneys, and might be advantageously combined with colchicum and the alkalies. In 1845, Alex. Fleming had treated fully of *aconite* as an antiphlogistic. The latest herald of its virtues was Sidney Ringer, who spoke of its power to abort inflammation and subdue the accompanying fever, by depressing the circulation and temperature, as nothing less than marvellous. It could not remove the products

of inflammation, but in the early stages prevented their formation; and thus it was of use so long as an inflammation was extending. Under its action, when properly exhibited, the dry and burning skin would in a few hours become moist and cool; then a profuse perspiration appeared, and the severer febrile symptoms were at an end. Ringer gave from half a drop to a drop of the tincture of the root, every ten or fifteen minutes for two hours; then every half hour, or hour, afterward. This frequency of administration seemed to Dr. P. not only fussy, but also dangerous.

Veratrum viride will efficiently control the pulse and temperature while its influence is kept up, but, as it had little or no effect upon the emunctories, the disease returned with its original force when the remedy was discontinued. While, therefore, it might be valuable as an adjunct to other treatment, or to produce a transient impression upon the system, it was less commonly useful than aconite or digitalis; moreover, it was more dangerous.

The action of *colchicum* upon the heart and arteries was similar to that of aconite or digitalis. But its most important action was one it had in common with quinine, that of preventing the formation of uric acid in the system. It had been demonstrated that a twenty-grain dose of quinine would diminish this formation by one-half, and the speaker was confident that colchicum either did the same thing, or changed the uric acid into something else. It was, doubtless, in this way that it acted as a prophylactic and curative against gout in high-livers. Intelligently employed, it was as sure a cure for gout as quinine for fever-and-ague.

All the above remedies were heroic and dangerous, and in the majority of cases they were no better than the milder and perfectly safe ones, such as the saline refrigerants. In simple fever or pure frank inflammation with acid secretions, the *alkalies* would usually effect sedation about as well as the more powerful remedies (though these could be added if necessary), while their important accessory properties rendered them the best basis of treatment in a large class of inflammatory affections. By increasing the alkalinity of the blood, they tended to prevent plastic exudation. But when this had taken place

and the products of inflammation showed a tendency to permanence and organization, they might be used alone, or with the addition of the iodide of potassium, or, as the doctor preferred, the bromide, which, he thought, had all the liquefacient powers of the other. Their value in rheumatism, and the probable frequency of the rheumatic tendency in many inflammations, had been already adverted to, while as renal or cutaneous depuratives they were among the best.

In conclusion, Dr. Peters spoke of the effect of the narcotic sedatives in producing a venous condition of the blood, the opposite of the arterial condition obtaining in acute inflammations—an effect which he thought might have some connection with their action in preventing and subduing inflammation.

DR. AUSTIN FLINT, Sen., being called upon, touched on one or two points. Alcoholic stimulants were an excellent example of the class of remedies which, in certain states of the system, become indirect sedatives to the circulation. In adynamic febrile conditions he had repeatedly seen their use in pretty large quantities bring down the frequency of the heart-beats. On suspending the stimulant for a few hours, to watch the effect, the pulse would mount up again; and, on resuming it, the reduction would again be observed.

As regarded the direct sedatives, they should be selected with reference to the special kind of sedation desired. For example, in the symptomatic fever attending the early stage of acute inflammation, it might be desirable, while reducing the frequency of the heart's action, to reduce also its force. Tartar emetic would serve this double purpose, and so might other nauseants. In other cases, as in certain valvular lesions of the heart and in fatty degeneration of that organ, we might wish, while diminishing the frequency of the pulse, to augment its power. In such cases the speaker had found *digitalis* meet these two indications in a remarkable manner.

Marey's experiments with the sphygmograph had shown that the heart's action was affected by the degree of arterial tension; so that it might be possible to act upon the heart by remedies addressed directly to the vaso-motor system. But what effect has the increase or diminution of the heart's ac-

tion upon such a morbid condition as inflammation, for instance? How much is gained, in such a condition, when we have succeeded, by some remedy which has no injurious effect on the system, in diminishing the frequency of the pulse? Does this produce a favorable effect upon the local inflammation; and if so, in what mode, and to what extent? An illustration in point was, the effect of *veratrum viride* in pneumonia, in which Dr. Peters had said it would diminish the heart's action and conduce to the comfort of the patient, but would not affect the progress of the inflammation except by retarding it. These questions had not, perhaps, been as yet sufficiently considered.

DR. CHADSEY spoke of the value of the bromide of potassium as an arterial sedative; of the too-often-slighted virtues of venesection; and of the unequalled merits of emetic tartar; in esteem for which he fully coincided with Dr. Peters's old preceptor.

DR. J. C. NOTT said that in yellow fever, typhus, and all other affections where the tendency was for death to begin at the heart, *veratrum viride* acted as a poison, and its use was extremely dangerous, even although the pulse might be so frequent as to make reduction desirable. But he had found much good from it in sthenic pneumonia and diseases of that kind, and he was pretty sure that he had seen pneumonia aborted by it in rare instances. The remedy was untrustworthy, often disappointing one; and its use should be confined strictly to sthenic inflammations.

DRS. RAMSAY, RABORG, PETERS, and WHITEHEAD, referred to their varying experiences with the bromide of potassium in delirium tremens and other affections.

THE PRESIDENT, referring to the expectant and nutritive treatment of delirium tremens, which Dr. Peters had advocated, said that he had found it work admirably with the hale old sailors on the Dreadnought, where the surgeon in charge used to say that seventy-two hours was a sovereign cure. But coming with this idea to treat the broken-down old "bummers" received at Bellevue Hospital, he had found his seventy-two hours sometimes more than sufficient for the case to end in death—perhaps from uræmia—the effect of old Bright's dis-

case. So in this affection, as in most others, we must study all the conditions of each case, and treat it on its own merits.

DR. POMEROY had frequently seen disastrous effects from over-doses of aconite, taken by mistake or prescribed according to the rules of the text-books. In his experience, this drug was almost always given too freely; and he could hardly imagine a patient taking five drops of Fleming's tincture every few hours without serious consequences. But in small doses frequently repeated its action was most happy. In combination with colchicum, and iodide of potassium he had found it of great service in rheumatism. Its special tendency to act upon the throat made it valuable in acute tonsillitis and other inflammatory affections of the fauces.

DR. CARO had tried aconite on a man suffering from purpura hæmorrhagica, hæmatemesis, and supposed meningitis. The pulse being strong, he had given one drop of the tincture every two hours, and it had paralyzed his patient.

DR. PETERS said a case of purpura hæmorrhagica was the very last one in which he would use aconite. This drug tended to cause fluidity of the blood, and, in cases of poisoning, produced large vibices on the surface and soft clots in the great vessels. But if the doctor would use it in cases of an exactly opposite class, in those of sthenic inflammation with excess of fibrin, he would doubtless often find it serviceable.

The Society adjourned.

Stated Meeting, January 3, 1870.

DR. GEORGE T. ELLIOT, President, in the Chair.

THE PRESIDENT announced the admission to membership of Drs. J. Williston Wright, Oren D. Pomeroy, and D. A. Antonini.

The report of the Committee on Medical Intelligence was read by Dr. Thompson, and that of the Committee on Diseases by Dr. Raborg.

DR. MEREDITH CLYMER read a paper upon "Some Points in the Clinical History and Pathogeny of Locomotor Ataxia,"

of which we give no abstract, as a more extended article from his pen upon the subject will appear in this JOURNAL.

After some discussion of the best means of effecting a reform in the rank of the naval medical staff, the Society adjourned.

Bibliographical and Literary Notes.

ART. I.—*Electricity in its Relations to Practical Medicine.* By DR. MORITZ MEYER, Royal Counsellor of Health, etc. [Translated from the Third German Edition, with Notes and Additions, by WILLIAM A. HAMMOND, M. D., etc.] New York: D. Appleton & Co. 1869. 8vo, pp. 497.

AFTER a long struggle with prejudice and indifference, electricity has deservedly won a position in legitimate therapeutics, which is every day becoming better assured. The distrust and apathy of the profession were justifiable so long as electricity as a remedial agent was in the hands of crafty, ignorant, and money-getting men—quacks who sought to dazzle and gull the public by the blaze of their wondrous cures. But now that it has been taken hold of, tried, weighed, and its true worth in practical medicine essentially settled, by men whose motives are beyond mistrust, who are as thorough clinicians as they are accomplished scientists, it is “the duty of every physician to study the action of electricity, to become acquainted with its value in therapeutics, and to follow the improvements that are being made in the apparatus for its application in medicine, that he may be able to test a remedy, without prejudice, which already, especially in nervous diseases, has been used with the best results, and which promises to yield an abundant harvest in a still broader domain.” (Preface, p. ix.)

A retrospective glance made in the progress of electro-therapeutics, during the last few years, is in the highest degree encouraging. The possibility of the constant current acting on the brain or spinal marrow—which has been until late so generally doubted—the electro-tonic action of the constant current on the living, the galvanic irritation of the sympathetic nerve, have been stricken from the list of hypotheses, and elevated to places among scientific facts. In surgery the electro-chemical action be

gins to attract more attention. It is now being used not only in cases of varices and aneurisms, but also in the treatment of tumors, strictures, etc. (Preface, p. xviii.)

Dr. Moritz Meyer, of Berlin, has been for more than twenty years a laborious and conscientious student of the application of electricity to practical medicine, and the results of his investigations are given in this volume. Dr. Hammond, in making a translation of the third German edition, has done a real service to the profession of this country and of Great Britain. Plainly and concisely written, and simply and clearly arranged, it contains just what the physician wants to know on this subject.

Unlike Remak and Duchenne, the author has no hobby; he works carefully and without prejudice, and, though full of his own facts and experience, he deals justly and impartially with those of others. He fairly, in the present edition, recognizes the great value of the constant current, without depreciating the worth of faradism, and lays down with general correctness the circumstances which may require the use of each or both. The general acceptance of the constant current within the past few years he speaks of as a "great event," and "an important period in the history of electro-therapeutics," and to its founder and great advocate as a mode of practice, Robert Remak, he pays a just and strong tribute. His last work, "Lectures on the Constant Current in the Treatment of the Neuroses," delivered just before his death, and of which a translation by Dr. Meredith Clymer was published in this JOURNAL (vol. iii., 1866), Dr. Meyer styles "a little *brochure* as valuable as it is small, and left as a sacred inheritance to electro-therapeutics" (p. 71).

In paper and type this is truly a sumptuous volume.

THIS long-announced volume¹ has at last appeared. It contains, besides an introductory historical chapter on Bellevue Hospital, fourteen articles of more or less value and interest.

¹ Bellevue and Charity Hospital Reports, 1870. New York: D. Appleton & Co. 8vo, pp. 415.

I. On Amputation of the Cervix Uteri in Certain Forms of Procidentia, and Remarks on the Complete Eversion of the Cervix Uteri, by Isaac E. Taylor, M. D.

This we regard as one of the most interesting and important contributions to gynæcological surgery which has appeared for some time. It is a real addition to our knowledge of the treatment of an important and embarrassing disorder. We strongly commend it to the attention of our readers.

II. On the Analytical Study of the Pulmonary Physical Signs furnished by Auscultation and Percussion, by Austin Flint, M. D. In this paper the author has aimed to promote a more thorough practical acquaintance of the physical diagnosis of chest-diseases, by a succinct exposition of its analytical study, and by giving an account of the differential characters of the thirty signs furnished by auscultation and percussion.

III. On Entire Excision of the Os Calcis, by F. A. Burrall, Jr., M. D. This is a thorough historical report of the operation, and a study of forty-eight tabulated cases.

IV. On the Serious Consequences which result from Neglect of slight Injuries of the Ankle-Joint; illustrated by Cases, by Lewis A. Sayre, M. D. A Clinical Lecture on Sprained Ankle, full of instruction and sound teaching.

V. A Method of Dressing Fractured Clavicle, by Lewis A. Sayre, M. D., which, it is claimed, enables the patient to pursue at once his ordinary avocations, and is always followed by satisfactory results.

VI. On the Diagnostic Characters, Mechanism, and Pathological Significance of Mitral, Direct, or Obstructive Cardiac Murmur, and on the Occurrence of a Tricuspid Direct Murmur, by Austin Flint, M. D.

VII. On the Mode of obtaining the Venous Hum, and the Value of this Physical Sign, by Austin Flint, M. D. Both of these papers are short, but of much practical interest.

VIII. Cases illustrating Strangulated Abdominal Hernia, not Strangulated, of Unusual Character, in all seventy-three Examples; accompanied with Practical Remarks, by Frank Hastings Hamilton, M. D.

IX. Bright's Diseases; a Clinical Report, based on an

Analysis of one hundred and two Cases, by Austin Flint, M. D. The points of inquiry are arranged under the following heads: 1. Morbid appearances after death; 2. Fatality and cases of recovery; 3. Antecedent circumstances and the previous history; 4. Symptoms and complications; 5. The progress and duration of the disease, together with the immediate cause of death; and 6. The treatment. This is a paper of great value.

In Articles X., XI., and XII., we have a table of the Amputations performed at Bellevue Hospital, a description of new Inhaling Apparatus, and a Report of the Pathological Department.

XIII. On some of the Effects of Excessive Intellectual Exertion, by William A. Hammond, M. D.

XIV. The History of nine Cases of Ovariectomy, by T. Gaillard Thomas, M. D., five of which resulted favorably. Of the four fatal cases, two were of alveolar cancer, one a solid tumor, and one a cyst which could not be wholly removed. Six cysts were operated on; of these five recovered, and the one which died was a case where one-fifth of the sac was left in the abdomen.

It will be seen from the contents of these Reports that they will compare very favorably with those published by other hospitals at home and abroad.

In the opening sentence of his preface¹ the author remarks, a discriminating public will say, "Better not attempt to write upon any subject till you are master of it." It is a thousand times to be regretted that Prof. Welch had not adopted this advice, and spared the public the infliction of a cruelly-absurd book. And yet this criticism must be amended in part, for in the first and second sections of the work, pertaining to the gymnasium and gymnastics, the author is a master of his subject, and has given us a sensible treatise well worth study and adoption in practice. But, when he comes to the third part, which he calls, after Dr. Alcott, "The House we

¹ Moral, Intellectual, and Physical Culture, or the Philosophy of True Living. By Professor F. G. Welch, Instructor in the Department of Physical Culture, in Yale College. New York: Wood & Holbrook. 1869. 12mo, pp. 429.

Live in," he treads upon purely physiological ground, and has made a most lamentable failure. Mingled with much sense there is here more nonsense gathered together than we have seen latterly within an equal compass. The difficulty is for those who are not thoroughly informed on this branch of science to separate the sense from the nonsense, and hence the book in this part is a dangerous one.

It would require but little trouble to fully substantiate this assertion, but the space required in our pages would be more than the whole thing is worth. Think, for instance, of the profound physiological and anatomical knowledge of a man who can write that lying on the side often causes "even the brain to sag and remain mostly on one side" (p. 217), or, who recommends pouring cold water down the spine as a means of inducing sleep (p. 215), or, who asserts that a man subsists more on air than on his meat and drink (p. 191), that "tobacco loosens the silver cord," that "many people die for want of breath," etc., for almost every page contains more or less of these startling and erudite propositions. And yet mixed with this superabundant trash there is much of real sound and valuable advice—so much, indeed, that a competent reader cannot but be pained at the incongruous mixture, and regret that the author had not sufficient wisdom to discriminate the good from the bad, and bring forward only the first.

The fourth part of the book is a collection of general readings, proverbs, and wise sayings, which the author has culled out of his commonplace-book, and grouped together in the most heterogeneous manner under the title of "Mental and Moral Culture"—though it would be difficult to determine the relevancy of many of the extracts to the subject in hand. "Wondrous indeed is the virtue of a true book," says the surly author of "Sartor Resartus." The converse of this proposition, we take it is equally true and peculiarly applicable to the book now under consideration.

THE same house that gave us the work which, from a sense of duty, unpleasant though it was, we have just now condemned so severely, here presents us with another little

book of quite a different character.¹ This author *knows* of what he writes, and we have not a single unfavorable word of comment, except that, in a purely critical mood, we may say the writer might occasionally have mended his English with advantage. As the title fully indicates, the book is a narrative of a winter's experience in Florida—a section of our country which is now attracting much attention as a fitting residence for invalids who cannot endure the severities of our Northern climate. To such, as well as to those about to visit the State, either as tourists or sportsmen, this little book will prove especially valuable. Written in an off-hand, easy style, it pictures the delights of a residence in that State in such attractive colors that we fear, perhaps, the reality for many may not equal the ideal which they would gather from Mr. Bill's narrative. But it appeals rather more directly to the feelings of the invalid or tourist than does Dr. Brinton's little guide-book to the same State, which we noticed a short time since, and which is prepared more strictly from a professional point of view, and for this very reason Mr. Bill's book will be more popular. We have read it with delight, and most earnestly recommend to all, invalid or otherwise, intending to winter in Florida, to procure the book and acquaint themselves with the valuable as well as interesting information it contains.

WE find on our table this the first number of a new medical journal,² published in this city, and edited by M. H. Henry, M. D. The title of the journal is an index of its character. The number before us contains original articles by Prof. Boeck, of Christiania, Norway; Profs. Van Buren and

¹ A Winter in Florida, or Observations on the Soil, Climate, and Products of our semi-tropical State; with Sketches of the Principal Towns and Cities in Eastern Florida, to which is added a Brief Historical Summary; together with Hints to the Tourist, Invalid, and Sportsman. By Ledyard Bill. 2d edition. Illustrated. New York: Wood & Holbrook. 1869. 12mo, pp. 222.

² See this JOURNAL, October, 1869, p. 52.

³ The American Journal of Syphilography and Dermatology, edited by M. H. Henry, M. D. New York: F. W. Christern, No. 77 University Place. 8vo, pp. 96. Published quarterly. Price, \$3 per annum.

Weir, of this city; and Drs. R. W. Taylor, and E. L. Keyes. There are also short but well-prepared book reviews, and copious selections from the foreign journals, all pertaining, of course, to the specialties of which the Journal treats. Great care and good judgment have been displayed in the make-up of this number, and, if the succeeding numbers keep up to the high standard of this, the Journal will become a credit to the country. A strict adherence to uniformity and purity of style would suggest a change of the word Syphilography in the title to Syphilology.

A NEW medical journal, to be published in Baltimore, Md., is announced. The editors are Drs. E. L. Howard and T. S. Latimer, and the journal is to be styled *The Baltimore Medical Journal*.

WE have received the prospectus of a new medical journal to be published at St. Paul, Minnesota, and to be called the *Medical and Surgical Journal of the Northwest*. The claim put forward in its favor is, that there is a great need of a good *home* journal for the profession in that section of the country, none having thus far been published in either of the three States, Minnesota, Wisconsin, or Iowa. We fail to see the force of the argument, and think the interests of the profession of the Northwest would be better met by giving their influence and material aid to sustain and advance the already-established and valuable journals published in the Great West, if not immediately in the Northwest.

BOOKS AND PAMPHLETS RECEIVED.—Fœticide, or Criminal Abortion. A Lecture introductory to the Course on Obstetrics and Diseases of Women and Children, University of Pennsylvania. Session 1839-'40. By Hugh L. Hodge, M. D.; Lindsay & Blakiston, Philadelphia, Pa. Pamphlet, pp. 44.

The alarming extent to which the practice of fœticide has reached in this country, was the inducing reason for republishing this lecture, which has attracted previously much attention, having been repeated as an introductory in the year 1854 to the class at the University. The ground which Prof. Hodge takes is that human life commences at the very moment of conception, and that all efforts to destroy the product of conception, no matter at what period, are therefore criminal. While we agree

fully in Dr. Hodge's argument and his conclusion, we do not believe that this is the best way, except in rare cases, to put the case to our patients whom we would deter from this wicked act. Make it appear that the production of abortion is reasonably sure to produce some subsequent train of physical evil and suffering, or, in other words, appeal to their self-interest, for moral considerations with the most of women on this subject are of precious little avail, and you will probably accomplish some good. Dr. Hodge also lays especial stress on the moral and physical evils resulting to women from this unnatural act, and urges the bringing these out in sharp prominence, with a hope of stemming the increasing current of crime that is sweeping over our land.

Vesico-Vaginal Fistule and its Successful Treatment by the Button Suture. By Nathan Bozeman, M. D. Extract from the Proceedings of the New York State Medical Society. Pamphlet, pp. 14. (From the Author.)

Forty-fourth Annual Report of the Managers of the Massachusetts Charitable Eye and Ear Infirmary. November, 1869. Pamphlet, pp. 22.

Biographical Sketch of the late A. B. Shipman, M. D., of Syracuse. New York. By H. O. Jewett, M. D. Pamphlet Reprint, Proceedings of the New York State Medical Society for 1869. Pp. 9.

Eulogium on Thomas C. Brinsmade, M. D. By George H. Hubbard, M. D. Pamphlet Reprint from Proceedings of the New York State Medical Society. Pp. 9. (From the Author.)

Report of the Trustees and Superintendent of the Tennessee Hospital for the Insane. 1869. Pamphlet, pp. 49.

Report of the Committee on Medical Education. Pamphlet Reprint, from the Transactions of the American Medical Association, pp. 30.

Fifteenth Report upon the Registration of Births, Marriages, and Deaths, in the State of Rhode Island, for the Year ending December 31, 1867. By Edwin M. Snow, M. D. Pamphlet, pp. 88. (From the author.)

This is a most valuable contribution to statistical science, and furnishes a most interesting subject of study. At another time we shall present some facts we have gleaned from Dr. Snow's report. In the way of condensation and brevity the report is a model.

Three Cases of Lead Palsy from the Use of Cosmetic, called Laird's Bloom of Youth. By Lewis A. Sayre, M. D. Pamphlet. Reprint from the Transactions of the American Medical Association. Pp. 12.

If the "girls of the period" could only read these cases whose causation was established beyond a doubt, they might, perhaps, be induced to abandon their senseless practice of using cosmetics. They are all poisonous, and physicians are constantly meeting with cases where the most lamentable results have followed their use. Perhaps the proprietor of

Laird's Bloom of Youth may object to this mode of advertising his wares, yet the bill is a true one.

Questions in Histology and Physiology, on the Plan of Questions in Anatomy. By C. L. Ford, M. D., Professor of Anatomy and Physiology, in the University of Michigan. Pamphlet, pp. 64. (From the author.)

This little *brochure* is intended as a companion for the Questions in Anatomy which we have previously (see JOURNAL, April, 1869,) noticed in the columns of the JOURNAL. The plan is admirable, and students will do well to provide themselves with a set of the Questions. Frequently it is a difficult matter to know how to ask questions properly. They will learn this much from Prof. Ford's little books—the rest they must learn from their text-books and lectures.

The History of Nine Cases of Ovariectomy. By T. Gaillard Thomas, M. D., Professor of Obstetrics, and Diseases of Women and Children, in the College of Physicians and Surgeons, New York. Pamphlet Reprint from the Bellevue and Charity Hospital Reports. Vol. i., pp. 27. (From the author.)

The closing paragraph of this paper fully explains its scope and character :

In this report are embodied nine cases of ovariectomy. Five of them resulted favorably and four unfavorably. Out of the four unfavorable cases, two were instances of so-called alveolar cancer, one a solid tumor, and one a cyst, the whole of which could not be removed. Six cysts were operated upon. Of these, five recovered, and that which ended fatally was a case in which one-fifth of the sac had to be left in the abdomen.

The operation of ovariectomy was only in two cases preceded by that of paracentesis. This was due to my desire to avoid an additional risk to my patients. I believe, however, that, in thus avoiding paracentesis, I committed a grave error. A more frequent resort to it would have cleared up many obscurities as to diagnosis, and thus prevented resort being had to ovariectomy in at least one of my fatal cases. My experience thus far will induce me, in the future, to resort to it much more generally than I have done in the past.

Reports on the Progress of Medicine.

SURGERY.

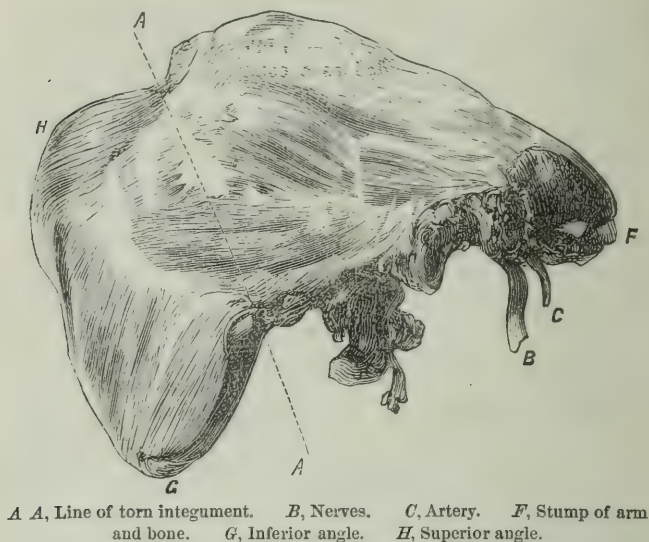
1.—*Amputation of the Scapula.* By P. H. WATSON, M. D., etc. [Edinburgh Medical Journal, August, 1869.]

Dr. Watson, in a beautifully illustrated article, here narrates a case in which the patient, aged 13 years, had his arm torn off by machinery. Dr. Gordon, who saw the patient shortly after the receipt of the injury, finding that there was no hæmorrhage, sent him at once to the infirmary.

On superficial examination, it was manifest that some operation would require to be performed, and as his pulse was good, though small, I deemed

it expedient at once to place him under chloroform before meddling with him, for the purpose of investigating into the extent of injury, or the na-

FIG. 1.



ture of the operation which might be required. After the removal of his clothes, the arm was found to have been nipped off at the insertion of the deltoid, at which point the brachial artery and the accompanying nerves hung loosely from the end of the stump, the artery pulsating up to almost its fusiform extremity. The whole of the deltoid region, the entire axilla, one-half of the pectoral region, and more than one half of the clavicle and dorsum scapula, were exposed as in a superficial dissection of the muscles and fascia, entirely denuded of all cutaneous covering. The skin corresponding to these bared parts hung behind, like a rag, fenestrated with openings made by the teeth of the wheels. The aperture in the skin through which the remains of the arm protruded, resembled the arm-hole of a vest, while the sound skin around this cutaneous aperture was so detached from its adjacent adhesions that the finger could be slipped beneath it for fully an inch all round. This detachment of the untorn skin diminished the likelihood of its retaining its vitality. To leave the stump of the arm as it was, was out of the question. To amputate at the shoulder-joint was to make things no better than they were. There was in fact no means by which a sound cicatrix could possibly be obtained, except by amputation of the scapula, together with the clavicle and the fragment of the arm. Having placed the patient deeply under the influence of chloroform, I proceeded to operate. The patient, in the first instance, was laid upon his side, so as to expose the dorsal aspect of the scapula. With a short amputating-knife I made an incision through the centre of the cutaneous opening as far as the posterior costa of the scapula, and with a sweep of the knife upward and downward, while the cutaneous flaps were held back, exposed the whole dorsum scapulæ. Laying hold of the bone by its inferior angles, a single incision severed a portion of the trapezius, the

rhomboids, and the levator anguli scapulae. The superior angle thus exposed was drawn downward and outward, and the remains of the trapezius, with the other soft attachments of the upper costa, were at once divided. The trunks and branches of the posterior scapular and supra-scapular arteries were now secured. Lastly, the serratus magnus was cut away from its insertion into the under surface of the vertebral costa of the scapula.

FIG. 2.



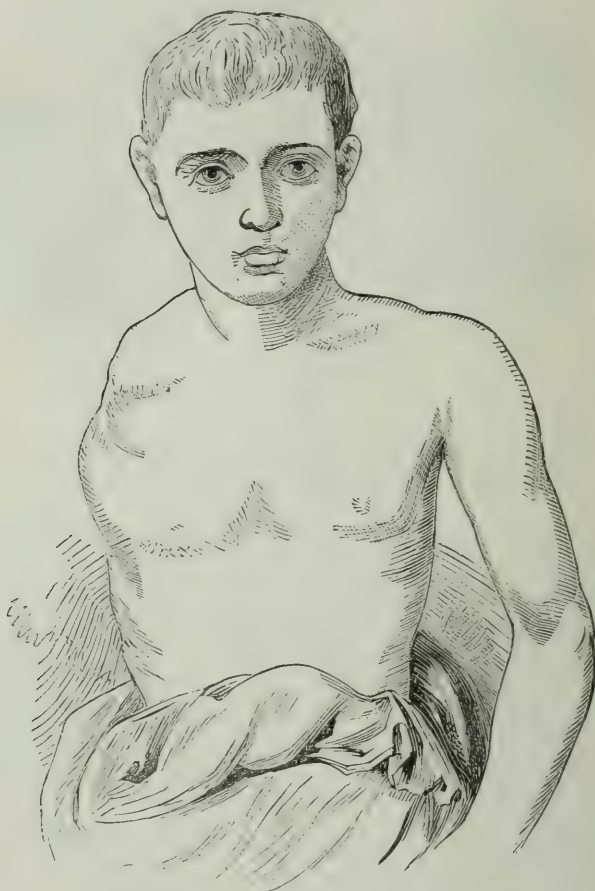
A, Line of torn integument. *B*, Nerves. *C*, Artery. *D*, Artery and vein, where cut through. *E*, Cut margin of pectoralis major. *G*, Inferior angle of scapula. *H*, Superior angle. *J*, Cut end of clavicle.

The remaining vessels which bled were secured as before. The patient was now laid on his back, and the skin divided along the clavicle, from which the muscles were detached, by slipping the point of the knife along the upper and lower margins. Dividing the clavicle with the saw, just external to the costo-clavicular ligaments, I cut through the pectoralis, major and minor, and, clearing the axillary vessels, gave them to an assistant. And now, on laying hold of the scapula and arm, and drawing them outward, a few touches of the knife enabled me to clear the remaining attachments of the bones above, so as to complete the separation with a single sweep of the blade toward the axilla. The axillary artery, the acromial and pectoral branches, were at once secured, and all bleeding ceased. There were upward of twenty vessels tied in all, but certainly not more than two ounces of blood was lost during the operation. The ligatures employed had been previously prepared by soakage in a strong carbolic-acid solution. The wound was now washed out with a similar but weaker solution of the acid in water (1 to 40). The horizontal incisions were united by wire sutures, and the anterior and posterior margins of the oval opening were brought together with a strain, by means of six points of interrupted suture. The whole cutaneous surface was again completely cleansed with the carbolic-acid lotion, and covered with a plaster composed of one part of carbolic-acid to seven of the emplastrum saponis spread upon lint. This was laid so as to adhere smoothly and closely to the surface for six inches in every direction beyond the divided parts, to

the complete exclusion of air. The patient was now conveyed to bed, laid among blankets, surrounded with hot-water bottles, and ordered champagne and brandy, together with beef-tea or milk, as circumstances might direct. These were to be given in small quantities, and frequently, so as to diminish the risks of vomiting.

The details of the progress of the case we omit, merely stating, that the patient was discharged cured on the seventy-

FIG. 3.



fourth day after the accident occurred. We would call attention, however, to Dr Watson's remarks on the case, especially with reference to his experience of the use of carbolic-acid dressing. We must confess to a certain degree of satisfaction at hearing one man bold enough to put on record the fact that

he has not succeeded with a remedy which it is just now the fashion to laud most extravagantly for nearly all the ills that poor suffering mortals are exposed to :

This patient was seventy-four days under treatment ; but throughout the whole of that period had no symptom calculated to excite anxiety as

FIG. 4



to his ultimate recovery. For nearly three weeks the discharge was copious, and undoubtedly purulent, and the usual effect of this continued drain, in the form of emaciation and anemia, was markedly observed. The carbolized dressings were employed carefully, and daily applied by my-

self or house-surgeon up to the 18th of April (twenty-two days), by which date the cutaneous flaps were adherent to the parts beneath. A large exposed granulating surface, corresponding to the axilla, remained, however, unhealed. It presented a weak and flabby appearance, which was apparently unaffected for good by the continuance of the carbolic-acid application. During the whole of this period there was, however, no fœtor

FIG. 5.



arising from the discharge, which was excluded from the action of the air, by being covered by the carbolic paste. Any of the secretion which escaped from beneath the paste, and soaked the nest of carded tow upon which the left side was supported when the patient was lying in bed, became more or less tainted in the intervals of twenty-four hours, between the periods at which the dressing and tow were removed. The secretion from the raw surface had at first the aspect of sticky mucus, like that secreted from the bronchi. I have observed this in every instance where

carbolyzed non-absorbent dressings are employed. The examination of this mucus-like secretion, by means of the microscope, has uniformly shown it to consist of pus-corpuscles in a clear, granular fluid. I have observed very much the same appearance in the instance of sores which, through a misapprehension on the part of the patient, have been dressed with the gutta-percha or oil-silk placed next to the skin, or where a cabbage-leaf or docken leaf has been used as an application. In other cases, where the dressing has consisted of oil and carbolic acid, applied by means of lint, the carbolic acid has a transforming influence on the corpuscles, rendering them angular and shrivelled, while the globules of oil sometimes obscure the field in such a degree as to render the recognition of any corpuscular elements impossible, until ether has been added to effect their removal.

I have employed carbolic dressing according to the strictest methods of antisepticism in a very large number of cases of operation, using it in this way in manipulations and incisions when its use was restricted by others to its application as a putty to the occlusion of chronic abscesses after incision. I have made the applications myself, renewing them day by day, and I have carefully watched the effect. I have had no bias in favor of this plan, nor have I been prejudiced against it. I have simply employed it because it made great promises, and I have no hesitation in saying that I have been completely disappointed in my expectations. I admit that my expectations were high pitched. I acknowledge I did expect to meet with union by the first intention. With the exception of three cases, where I had removed loose cartilages from the knee-joint by free incision in different individuals, I have obtained no such results; and while, I believe, our surgical brethren in Aberdeen uniformly operate in such cases by free incision, without any antiseptic precaution, and rarely have any ill result, in a fourth case, where all antiseptic care was taken, I had suppuration of the knee-joint, and a very narrow escape from a fatal result. I lately amputated a boy's foot by Pirogoff's operation, with the most minute attention to every antiseptic precaution; diffuse osteomyelitis of the tibia ensued, necessitating a second amputation at the knee; and, on cutting up the limb, I never met with a better example of acute osteomyelitis, nor did I ever see an instance where the suppuration, both within and without the bone, was so excessively putrescent.

In this case I am not inclined to accord any credit to the antiseptic treatment as having in any way assisted in the satisfactory result. I fear my desire to employ it with every precaution delayed the cicatrization of the granulating surface. Lest this should be thought a prejudiced opinion, let me adduce the results in those cases most nearly related to the present amputation, viz., where the arm and scapula have been torn away from the trunk by machinery. There are eleven such cases on record: they all have recovered, and in a period varying between one and two months. Seventy-three days, the residence in hospital of this patient, seems long comparatively. I fancy the difference may not unreasonably be accounted for by the greater amount of cutaneous tissue left intact in the other instances as compared with the case I have described. Looking at the curious and now scarce copperplate illustration of the case narrated by Cheselden, it certainly is so in that example; and in the woodcut in Scarnell's case in the *Lancet* of 1832¹ the same condition as regards the proportion of skin is to be observed.

I believe, therefore, that the comparative tardy healing in my patient was due to a deficiency of skin; but, I again repeat, I can see no advantage which may justly be attributed to the carbolyzing of the wound and its surface. Perhaps, by some the recovery of the patient is attributed to its

employment. I believe persons unaccustomed to see great wounds might be impressed in this way; and, from their want of opportunity to observe the progress and results in the larger surgical mutilations, young and inexperienced students are apt to imagine, when any new method is used, that success is due to the novel element imported into the treatment of the patient. This observation is only consonant with what we see every day in the introduction of pharmaceutic novelties into medical practice. Those who think carbolized dressing saved this patient, must not forget that the eleven recorded cases of tearing away of the arm and scapula all recovered, and that they recovered without the aid of the modern antiseptics.

To this narrative Dr. Watson appends the table of cases of excision of scapula, prepared by Dr. Stephen Rogers, of this city, and quoted from the *American Journal of Medical Sciences* for October, 1868, overlooking the amended and more complete tables published in this JOURNAL, January, 1869. To complete the record of this table, another case, formerly overlooked, should be added. The operation was performed by Dr. Blackman, of Cincinnati, in 1858, and is reported in full in the Cincinnati *Lancet and Observer*, Aug. 1858. In this case Dr. B. removed all of the scapula except the glenoid cavity and a portion of the coracoid process; the disease being caries and necrosis. The patient was discharged on the 14th day with the wound healed, and with every prospect of a useful arm.

Prof. S. W. Thayer, of Burlington, Vt., has, during the past summer, had under his care a case almost identical with Cheselden's celebrated case reported in his "Surgery." The patient was a lad, twelve years of age, and his arm and scapula were torn off by machinery. Dr. Thayer ligated the subclavian and removed the outer end of the clavicle. The patient had several fractures of bones, and was badly contused in various parts of the body, all of which tended to complicate the case and interfere with the treatment. There was more hæmorrhage than is usual in these cases, and yet, in spite of all these complications, the lad made a perfect recovery. It is to be hoped that Prof. Thayer will put on record a detailed account of the case.

In the *British Medical Journal* for September 18, 1869, we find still another case, reported by Mr. Vincent Jackson, surgeon of the South Staffordshire General Hospital:

Samuel C., aged thirty-five, was admitted into the Wolverhampton General Hospital in December, 1864. He was employed on the Great Western Railway as a laborer; and, while so employed, was knocked down, being struck on the back by the buffer of an engine, the wheel of which passed over and crushed his right arm. As quickly as possible, I believe, he was conveyed to the hospital; but not before a considerable quantity of blood was lost. At half-past six in the evening, shortly after his admission, I saw the patient. He was an unusually well-developed and strong man; his face was pale, but not blanched; the countenance ex-

pressive of suffering great pain. He was perfectly sensible, and anxious for something to be done to his arm. His habits were intemperate.

On a careful examination, it was ascertained that a compound comminuted fracture of the right arm and forearm existed, and also that the shoulder-blade was broken in more than one place, although the skin covering it was entire, but seemingly much contused. The chest and the other portions of the body were thoroughly examined, but no lesion was detected. A consultation of the surgical staff of the hospital was held; and it was determined to remove the limb at the shoulder-joint, and to deal with the scapula afterward, as its condition might require. I as quickly as possible amputated the arm at the shoulder-joint; and, the vessels being secured, an examination with the finger induced me immediately to proceed to the removal of the scapula. It was extensively comminuted and the muscles around it torn, bruised, in fact, almost pulpy; yet the skin, as previously mentioned, was entire. An incision was first made from the upper part of the flap behind to a little beyond the posterior border of the shoulder-blade in a transverse direction and on a level with the spine, and another at right angles to it along the whole extent of the same border. The flaps thus marked out were dissected back, the fractured portions carefully raised from below upward, by division of the muscular attachments, the edge of the knife being kept well upon the bones; the upper and the largest fragment, consisting of the spine and supraspinous fossa, was finally detached after the acromial process had been sawn through, a portion of it being left in attachment to the clavicle. Four vessels were ligatured; the precaution being taken to tie each artery immediately after it was cut. The wound was dressed, after the edges had been approximated with wire sutures, with water dressing. The patient was placed in bed, but he died the next morning, sinking apparently from exhaustion. The *post-mortem* examination revealed no further injuries than those detected during life.

Mr. Cumming appends to this case some remarks, in the course of which he refers to nine cases which he had been able to collect. These cases, with a number of others, will be found in the tables of Dr. Rogers, to which we have already alluded.

2.—*A Case of Total Extirpation of the Tongue.* By Mr. REID. [Lancet, October 23, 1869.]

The operation, of which the following is an example, has been performed many times in Victoria; first of all, we believe, by Dr. Macgillveray, surgeon to the Bendigo Hospital. Mr. Reid has performed the operation several times. He knows that three of his patients, although they died about a year afterward, enjoyed during their life an amount of ease, compared with their former sufferings, which induces him to consider the operation a justifiable one. Each patient expressed himself in writing, within thirty-six hours after the operation, as greatly relieved. All the patients returned to work. Three died of recurrent cancer in the glands of the neck, and of general marasmus. Mr. Reid remarks that, when the lower jaw is divided, the halves separated, and the tongue pulled forward, it is surprising how easy the operation becomes. No ligatures are ever required. He insists upon the advantage of not bringing the parts together until all inflammatory action has ceased, and healthy granulation has commenced. All the patients could swallow readily within twenty-four hours after the operation. Chloroform was always employed, and with success.

James H—; laborer; native of Norfolk, England; a medium-sized man; dark complexion, gray eyes, and dark-brown hair. Admitted into the Geelong Hospital June 6, 1867. States that three months ago he first felt a soreness and swelling in the tongue. About four weeks after the first symptoms, on exposing his tongue to the looking-glass, he observed a small ulcer on the left side of the tongue, about an inch and a half from the tip. At this time he was under Dr. Johnson, of Horsham, who applied lotions; but the ulcer still increased, and attained the size of an almond. Finding the disease rapidly spreading, he was advised to come to the Geelong Hospital. Having left England when very young, can recollect very little of family history, but thinks they were healthy people.

Present State.—Muscular system rather weak; dingy appearance of countenance. Flat chest. No cough. Apex beat, fifth space, one inch inside nipple line. Percussion-note under left clavicle appears rather dull; nothing else remarkable. There is considerable induration on the left side of the tongue; it commences three-quarters of an inch from the tip, and extends backward an inch and a half. The induration extends as far as the middle line; its surface is ulcerated near the side, the ulcerated surface being half an inch by an inch and a quarter; the surface is granular and dirty. There are no glandular enlargements. Ordered, chlorate of potash mixture, one ounce, every four hours; spoon diet, a pint of ale, milk, and arrowroot.

Operation.—On June 19th Mr. Reid commenced operating by making an incision through the lower lip, in the middle line, quite down to the bone, and as far as the symphysis, by one stroke of the scalpel; and then the incision was carried downward and backward for two inches, behind the symphysis. Accurately in the middle line, the lower jaw was then carefully sawn through by a Hey's saw. The two halves of the lower jaw were then easily separated, a few touches of the knife readily allowing the genio-hyoid and genio-hyo-glossi muscles of opposite sides to be separated. The entire tongue was then easily and completely surrounded by the chain of an *écraseur*, which passed just in front of the epiglottis, and in a few minutes all was removed. The patient had been put completely under the influence of chloroform, but he partially recovered before the operation was finished. There was little or no hæmorrhage. In this case the bone was very hard compared with that in other cases. Mr. Reid always cuts the bone through, and never now uses bone-forceps, as he finds that the bone unites more readily if cleanly cut through. After operation, the parts are left just as they are, being occasionally syringed with water. Before operation the tongue is always secured by a piece of whip-cord passed through it.

After the operation he went on very satisfactorily, and, on July 4th, it is noted that he talks quite distinctly. Lower end of incision almost completely healed. Bone in good position. Bandage taken off and reapplied this morning.

July 15th.—The bone is beginning to knit; feels firm to the patient. The interior of the mouth is beautifully healed; nothing remains now except a small fistulous opening under the chin.

25th.—Opening under chin healed up. Bone quite solid.

30th.—Discharged at his own request.

The patient returned on the 13th February, 1868. The mouth was quite healthy, and the bone sound, but there was a great swelling in the neck connected with the cervical gland. He again left on the 9th March, and went home, and died about six months afterward.

OPHTHALMOLOGY.

By HENRY D. NOYES, M. D.¹

MUSCLES.

- 1.—*Operation for Dynamic Divergent Strabismus, in reference to Progressive Myopia.* By A. VON GRAEFE. [Monatsblätter für Augenheilkunde, s. 225-282. August und September, 1869.]

Prof. Graefe called attention to a form of asthenopia due to inefficiency of the internal recti muscles, in an article in the Archives for Ophthalmology, viii., 2, p. 362. He now considers the same defect in its relations to myopia. He has kept record of eighty (80) cases in which he has done this operation, and found that only six of them continued to increase rapidly in myopia, and four to increase slightly. In the remaining seventy cases the myopia was arrested, or diminished. All the cases had, during the two years preceding the operation, grown worse, as from M 1-7 to M $\frac{1}{2}$, or from M 1-24 to M 1-10, or from M 1-12 to M 1-5, and cases of less decided increase were not noted; almost all the cases had employed prismatic or concave prismatic glasses without effect, and all the patients could do at least as much work after as before the operation, sometimes requiring aid of prismatic glasses besides.

Insufficiency of the interni renders it impossible for myopes to completely relax their accommodation—unless one eye is excluded in near work. In such cases we may under-estimate the myopia—if we judge by the reading distance. A patient may read diamond print at 7 inches, but require $-5\frac{1}{2}$ for distance instead of -7 . After being operated on, or when wearing abducent prisms, the myopia may seem to diminish. Those who had been using -12 may then see equally well with -14 or -16 , or even -18 . Besides the tension of the accommodation, the muscular exertion in the effort of convergence tends to increase the protuberance of the globe, and this is further aggravated by the internal congestion which such efforts excite. The loss of muscular equilibrium includes all the elements calculated to render myopia progressive.

It might be argued that it were unreasonable to expect a perfect muscular capacity for binocular vision in cases of M $\frac{1}{2}$ or $\frac{1}{3}$ —the range is too great, and such cases are not to be operated on, but only those which show decided divergence for distance. In answer, it must be remembered that there are many cases which, for distance, cannot produce absolute divergence, or at most not more than 4° , which at medium distances exhibit perfect equilibrium, but only at near distances show dynamic divergence. Were the eyes emmetropic, this state of the muscles would be perfectly normal. But the subsequent history shows a different condition—the divergence becomes more positive, and at length a remarkable facility for abduction at the distance appears, amounting to prisms of 8° , 12° , 16° or more. To bring out this abductive faculty, it may be needful to let patients wear prisms (the bases inward), for a day or two, when it will be found increased sometimes as much as from 6° to 10° or from 10° to 15° .

In case of those who use but one eye for near work, and exclude the other, Prof. Graefe thinks the operation less imperative than for those who work with forced convergence, but thinks it possible to obtain comfortable binocular vision at near work, in cases where myopia is not greater than $\frac{1}{2}$ or even $\frac{1}{3}$, by means of the operation on the externi, and aided perhaps by suitable glasses, either concave prismatic, or simply prismatic.

¹ I am happy to acknowledge the assistance of Dr. H. C. Eno, in the preparation of this Report, and chiefly of parts which relate to pathological anatomy.

In deciding upon the existence of dynamic divergence or feebleness and consequent strain on the interni, the mode of examination is of great importance. That a patient can sustain binocular fixation on an object brought within $2\frac{1}{2}$ inches of his face, is not decisive: nor can we rely on the divergence of one eye when it is covered by a screen; even the customary test of the dot and vertical line, seen through a prism, which causes vertical diplopia, needs to be cautiously relied on. The line should be very fine and the dot large. If, when the prism is held absolutely vertical, the patient sees only one line and two dots, we are not sure that he may not be straining his interni. An inclination of the base to the temporal side should provoke crossed images, and inclination to the nasal side homonymous images. If this occur, the convergence is really relaxed. If this do not occur when the base is shifted a little to one side or the other, but the only effect produced is to make the dots come a little nearer together and remain vertical to each other, the line not becoming doubled, the test is not conclusive. Repeat the experiment with a much finer line and larger dot, or with a figure in which the line is very short, or simply with a dot.

Even in the last case some patients have so strong a disposition to efforts of fusion that the dots will continue perpendicular when the prism is turned from side to side. In such a case, substitute a short and oblique line, or let the dot be very small.

The examination should be made quickly, and will usually succeed by using the short line and dot, or the dot alone, while the prism shall be very slightly tilted laterally. This testing applies to the ordinary working distance—it should be repeated for a greater distance—and, finally, at still greater distances, similar examinations should be made, substituting a candle for the figure.

A second part of the trial consists in ascertaining the power of abduction for distance. If loss of balance for the near makes an operation desirable, it is fully sanctioned by the discovery of a high degree of abductive power for the distance—that is, of facultative divergence. To find this correctly, the following rules are to be observed:

1. Begin with objects held at rather short distances, because, in determining the limits of binocular vision, we should begin from the region of single vision, not from that of double vision. I usually put before the patient a prism 18° (base inward), and gradually withdraw the candle until homonymous double images appear. The distance where this occurs gives an approximation of the abductive power. If this diplopia occur at five feet, repeat the trial with prism 16° ; if at three feet, try with 14° . One must proceed from a near to a greater distance very gradually, else the prism chosen as the limit of the abduction will be too weak.

2. If the power of abduction seem too little in proportion to the distance at which disturbance of equilibrium occurs—that is, if less than 8° , the minimum amount which justifies an operation—the patient should be made to wear abductive prisms as spectacles for a few days. Often the power of abduction will be increased from 2° to 5° .

3. It is important that the double images be kept on the horizontal position; not the slightest deviation of the abductive prisms from the horizon can be allowed.

There are certain errors to be guarded against. 1. See that the patient is not excluding one eye from vision behind the prism. 2. The degree of abduction must be measured on a horizontal visual plane, and not with eyes turned down. In the latter case the limiting prism might be 6° , while for the horizontal plane it would be 9° or 10° . 3. The prism must not be momentarily overcome, but habitually.

The operation should be done upon the eye which most commonly diverges. If the insufficiency amount to 14° or 16° , both eyes should be operated on. To graduate the effect of the operation, the following hints may be given: A simple tenotomy done as for ordinary strabismus will be the equivalent of a prism of 16° . If the power of abduction be 14° or less, the tenotomy must be restricted in its effect by a conjunctival suture.

The effect of the suture depends on its direction, on the amount of conjunctiva included, and on the tightness with which it is drawn. If the tenotomy is to produce an effect of 14° or 13° , the suture should be nearly vertical in its course, and take in about $1'''$ of conjunctiva. To limit the effect to 10° the suture should not be quite so nearly vertical, and should include $1\frac{1}{2}'''$ of conjunctiva, and pulled tightly. For an effect of 9° or 8° , the suture to be horizontal, and contain $2'''$ of conjunctiva. An effect of 18° may be obtained by lateral incisions into the sub-conjunctival tissue. If more than this should be needed, as may rarely occur, a suture may be put into the conjunctiva at the inner side of the globe, a curved needle thrust in close to the earuncle, and its point brought out near the inner and upper border of the cornea, including a bridge of conjunctiva $3'''$, $4'''$, or $5'''$.

Immediately after the operation, when the effect of anæsthesia has passed away, the muscular equilibrium must be tested. This must never be in the median line. The candle must be at least ten feet distant, and about 15° toward the side of the sound eye, and about 15° below the horizon. This may be called the place of election. In this situation there should always be perfect equilibrium immediately after the operation. If the effect is to be increased, the suture must be loosened or withdrawn—if the effect is to be abated, the suture must be tightened or take a deeper hold.

The loss of mobility is usually much greater in this operation than for true strabismus divergens. If no suture is used, the defect amounts to $2\frac{1}{4}'''$ to $3'''$, or even more; after a suture of medium effect it amounts to $1'''$ to $1\frac{1}{4}'''$. A defect of $2\frac{1}{2}'''$ corresponds to a prism of about 14° ; $1\frac{1}{2}'''$ equals a prism of 8° to 9° .

The usual course of these cases is next minutely detailed, and the variations from the normal course. It is not until the third week that the final effect is reached.

The article, which has thus been greatly condensed, is worthy of the genius of its author, and cannot be justly presented without a full and literal translation.

LACHRYMAL APPARATUS.

1.—*Stricture of the Nasal Duct.* By E. WILLIAMS, M. D., of Cincinnati. [Archives for Ophthalmology and Otology, vol. i., 1, 40–57. 1869.]

This paper describes in detail the author's treatment, which consists in the introduction of a style by the superior caualiculus, which the patient is to wear until the cure is complete. The style must reach down the full length of the nasal duct, and when first inserted its size may sometimes be the largest which the normal duct can receive. Sometimes one not larger than No. 3 or 4 is first used, and changed after two or three weeks for a larger. The pain which immediately follows its introduction is generally not more than ice-water and morphine can control. After being in a few days, it is taken out to permit the duct to be syringed with warm water. If secretion is copious, astringent injections are made. I summarize that account very briefly, because its steps are pretty well known, and the practice is in vogue among a number of surgeons.

Four cases of internal division of the stricture, as Stilling recommends,

are given, of which two were entirely successful, and the others were so severe that but little benefit was obtained.

- 2.—*Remarks on the use of Leaden Styles in the treatment of Lachrymal Obstructions, with Description of a new Plan for facilitating their Introduction.* By Dr. JOHN GREEN, of St. Louis. [Transactions of American Ophthalmological Society for 1869, pp. 15–17.]

Dr. Green coincides with Dr. Williams in the advantages of wearing a style introduced through the canaliculus, but prefers lead, and has obviated the objection of their weight by having the larger sizes made tubular. He inserts them by putting a stylet into the tube. He prefers the tubular leaden style because its flexibility allows it to adapt itself to the sinuosities and slight irregularities of the duct. In other respects he follows the same general plan as does Dr. Williams.

- 3.—*Zur Behandlung der Thränenlauchstricturen.* JAESCHE. *Die Incision bei Stricturen der Thränenableitungswege.* STILLING. [Zehenders Monatsblätter, January and February, 1869.]

The Treatment of Stricture of the Nasal Duct by Internal Division.

Jaesche claims to have first proposed the treatment of stricture of the nasal duct by internal division. Stilling allows him that credit, but claims for himself to have suggested a method superior to Jaesche's.

Jaesche used a narrow-bladed knife which he introduced along a grooved director, thus cutting only the stricture itself, and did not recommend the incising in several directions. Stilling, on the contrary, uses a knife twice as broad as the largest Bowman's sound, makes quite long incisions in several directions, and deep enough to cut through the corpus spongiosum.

- 4.—*Pilzmassen in unteren Thränenanälchen.* Prof. Dr. FÖRSTER. *Über Leptothrix in den Thränenröhrchen.* A. VON GRAEFE. [Archiv für Ophthalmologie, bd. xv., i.]

Several years ago, Von Graefe published two cases where concretions of fungous growth were found to occlude one of the canaliculi of the lachrymal duct. At that time he described these concretions as consisting of favus, but in 1868 he published a longer series of similar cases, in which the fungus was recognized as leptothrix, and identical with leptothrix buccalis.

The concretions of leptothrix have been found only in the inferior canaliculus, and form an oblong mass from $\frac{3}{4}$ ''' to 4''' in length, and $\frac{1}{2}$ ''' to $1\frac{1}{2}$ ''' in thickness.

The color is sometimes quite dark, generally, however, a grayish yellow, often verging upon green.

The symptoms are epiphora, and the ordinary accompaniments of chronic disease of the lachrymal passages: treatment, slitting up of the canaliculus. It is suggested that some of those cases of epiphora, erroneously supposed to be dependent upon stricture of the duct, where simple slitting up of the canaliculus has effected a cure, may have been due to the leptothrix. Malposition of the punctum accounts for some of these cases, but not for all.

It is probable also that many of the recorded cases of dacryoliths were of this nature, for in one of Von Graefe's cases the concretion was quite hard, and mingled with calcareous material.

Förster records three of these cases, and ten cases since the first recorded by him have come under the observation of Von Graefe. Still, this disease may be more common than these statistics would lead us to suppose,

for in its beginnings it must be very difficult to recognize, owing to the minuteness of the deposit.

EYELIDS.

- 1.—*The Extirpation of the fibro-cartilage of the Upper Eyelids for the cure of certain cases of Entropion and Trichiasis.* [By Dr. B. A. POPE, of New Orleans.]

The suggestion which Dr. Pope makes, and has put in practice three times, applies to the worst and most intractable cases, in which the eyelids have atrophied and the tarsal cartilages become greatly deformed. He finds Arlt's well-known operation sufficient for most cases, but in these severe ones, after having made all the incisions and dissections of Arlt's method, he proceeds to remove the tarsal cartilage from the posterior flap, being careful not to damage the conjunctiva. This must be done piecemeal, and often with much difficulty. At the same time the upper border must be left so as not to disturb the insertion of the levator. The wound should not be sewed up until all oozing has ceased. The posterior flap is apt to hang lower than the anterior and seem redundant, but cicatrization gradually corrects the error, and the lid is left far more supple than before. The operation is spoken of as difficult to perform, and great care must be taken that the lower edge of the outer flap do not unite too early and too high up. Sometimes this operation will have to be preceded by another for blepharophimosis.

CORNEA.

- 1.—*Contributions to the Pathology of Burns of the Cornea from Lime.* By Dr. H. DE GORVÉA, of Rio de Janeiro, Assistant to the Ophthalmic Hospital of the University of Heidelberg. [Archives for Ophthalmology and Otology, vol. i., No. 1, 208-229.]

The conclusions of this paper, which consist chiefly of an account of experiments on animals' eyes, may be condensed as follows: If the lime has remained for a short time in contact with the cornea, it not only causes destruction of more or less of its substance by the rapid withdrawal of fluid from the cornea, but it also penetrates into the substance of the tissue in the form of dust-like particles.

The cicatrix which follows not only contains lime-particles, but may present true petrification. The cicatricial tissue abounds in cells which anastomose with each other in every possible way; and contains nerves which terminate on the epithelium, and whose course precisely resembles the normal anatomical arrangement. If the cauterized portion of the cornea be removed, a white opacity does not result; on the contrary, the substituted tissue is transparent.

When the conjunctiva is burned, particles of lime penetrate to the episcleral tissue, and may at a later period form extensive incrustations on the sclera and adjacent muscles.

The density and persistence of the white opacity are in a great measure due to the presence of lime in the cicatrix.

It may be added that experiments with various acids utterly failed to dissolve and remove the lime, without, at the same time, injuring the tissues. The best mode of removing it when recent is by washing with warm water or sweet-oil, and removal by instruments such as a spoon, curette, or forceps. Lime which has been slaked is far less caustic and mischievous than in the anhydrous state, hence the moderate amount of damage which usually follows from mortar being thrown into the eyes.

IRIS AND CHOROID.

- 1.—*Remarks on the Anatomy of the Iris at its Place of Attachment and of the Annulus Ciliaris.* By ALEXANDER IWANOFF and ALEXANDER ROLLETT. [Archiv für Ophthalmologie, bd. xv., abth. 1, s. 17-74., 1869.]

The anatomical region brought under discussion is the most important in the eye from a surgical point of view, and has been attentively studied. The authors were led to examine it again with the hope of clearing up some obscurities and reconciling some discrepancies. They discuss the following points: The "*Ligamentum pectinatum iridis*," the canal of Fontana, the canal of Schlemm, the relations of the membrane of Descemet to the *ligamentum pectinatum*, the ciliary muscle. They describe their mode of working, and have examined eyes of the ox, dog, pig, sheep, eagle, hen, goose, other animals, and man.

The canal which Fontana first described in 1778, in the eye of the ox, they find to be a series of spaces, not to be confounded with the canal of Schlemm. A series of fibres proceed from the front surface of the iris at its periphery to attach themselves to the membrane of Descemet, or rather go for a little distance underneath it. They are described by Mr. Bowman as part of the termination of the membrane of Descemet, but are shown to belong to the iris, and constitute the *ligamentum pectinatum iridis*—sometimes called pillars of the iris. Behind these are found very delicate fibres interlacing each other and forming communicating interstices, situated so as to be bounded exteriorly by the sclera, posteriorly by the origin of the ciliary muscle, internally by the very beginning of the iris. The fibres contained in this triangular space are developed in various degrees in different animals. In the ox they appear as if they were produced by a spongy arrangement of the iris itself at its attachment, and are so firm that a bristle may be thrust through the spaces between them, and pass for a considerable distance before piercing through. Injections of quicksilver may be made, as Fontana showed. This structure is what he called a canal. Some have described this canal as divided into an anterior and posterior, and even middle. In no proper sense does any canal exist. The trabeculæ are strewn with cells and nuclei, rounded or oval, single or clustered, some larger than others—many resembling lymphoid cells. In the larger meshes stellate and pigmented cells occur. Exterior to this triangular space is situated the so-called canal of Schlemm, located in the sclera, consisting, as Lebert and others have shown, of a plexus of veins, and not a single vein or sinus.

The epithelium of the posterior elastic lamina or membrane of Descemet is hexagonal, well defined, and for purposes of description may be said to pass over the fibres of the *ligamentum pectinatum*, to become continuous with an epithelium covering the anterior surface of the iris. The epithelium on the fibres of the pectiniform ligament is less sharply defined than on the membrane of Descemet, but can be distinctly traced in the dog, cat, and human subject. On the iris the cells are smaller, are granular, and not so regularly six-sided. The authors on this point agree with Brücke. Thus it would appear that the vexed question of the existence of a membrane of the aqueous humor, so called, must be settled in the affirmative, so far at least as epithelium may constitute a membrane.

The purpose of the areolæ which have been called canal of Fontana remains unknown. It is proven that they do not communicate with the lymph-vessels.

All that the authors attempt about the ciliary muscle is to reconcile the varying descriptions of what is observed in the eye of the eagle, the owl,

and of other birds. They show that it is found divided into three parts—the part in front described by Crampton, a part behind which Brücke described and called tensor choroideæ, while between these is a very thin band to which H. Müller and Donders specially called attention. They do not add any thing to our knowledge of the ciliary muscle in man, in whom its structure is more simple, nor do they give a theory of its action.

The anatomical points set forth are made clear and very interesting by five beautiful plates done on stone, whose execution is so fine as to resemble copper-plate engraving. The importance of these investigations both to pathology and to surgery will be readily appreciated.

2.—*A Method of Corelysis.* By Dr. G. PASSAVANT. [Archiv für Ophthalmologie, bd. xiv., 1, 259–264.]

This mode of tearing adhesions of the iris to the lens consists in making a small wound at the margin of the cornea, catching the iris with a pair of forceps, pulling it gently from its adhesions, and then withdrawing the forceps. The inner wound is far enough from the periphery of the iris to guard against entanglement, which is the chief danger; the teeth of the forceps are quite blunt. The eye must be fixed steadily during the operation, and afterward confined with a bandage.

It is better to attack only one synechia at a time, so as to make the operation as slight as possible. A succession of adhesions may be thus broken away at intervals of a few days. No serious results have attended the operations, which have amounted to fifty or more.

The first suggestion of this proceeding was in a case of cataract, where it was desirable to loosen a synechia, and, not being attended with any harm, the method was successfully applied to eyes in which the lens was clear. As many as four operations have been done on the same eye, and the pupil rendered circular and mobile. This little operation deserves trial, but demands very careful manipulation.

3.—*Isolated Rupture of the Choroid, resulting from Concussion of the Eyeball.* (With Chromo-lithographs.) By Dr. H. KNAPP. [Archives for Ophthalmology and Otology, vol. i., 1, 149–185.]

A list of cases hitherto published constitutes the first portion of this paper, and then follows an account of eight cases which have been seen and figured by the author. Of these latter one recovered with nearly perfect sight, the remainder suffered more or less serious injury. Among the ulterior effects of the lesion are scotoma, detachment of the retina, metamorphopsia, and micropsia. The inflammation set up by the injury in the adjacent retina readily explains the damage to its function, while the distortion of sight is accounted for by the contraction which takes place in the cicatrix. The choroidal rent has not been observed to heal and disappear, but always leaves a conspicuous scar on the fundus. The borders of the rent ultimately become deeply marked by pigment. It is noteworthy that sometimes almost no hemorrhæge follows the rupture. In such a case the intra-ocular pressure must exactly equal the pressure of the fluid in the blood-vessels. Dr. Knapp discusses at considerable length the mechanism by which these fissures may be caused. He considers them as the result of counter-shock (*contre-coup*), and very reasonably.

This lesion would doubtless be noticed oftener, if looked for; I have seen within the year one of old date, and another of recent occurrence.

LENS AND VITREOUS.

1.—*Extraction of Hard Cataract:* A criticism of the modes of operating employed during the last twenty years, and review of 698 cases operated

on by Prof. ROTHMUND (of Munich). Inaugural Dissertation by J. DAUTONE. Assistant in Prof. Rothmund's clinic. Erlangen, 1869, pp. 89.

This article is itself a condensation of results, and deserves to be presented in full rather than in quotations. After twelve pages of historical notice, follow sixteen pages concerning the principles which govern extraction of cataract. As to the size of the wound, he states, what is now generally accepted, that any cataract may be removed through a linear wound, 5 to 6 lines long, or through a flap wound which is 4 to 5 lines long and the flap 1 to 2 lines high; that it escapes most easily through a flap wound in the sclera; but that, because scleral flaps are very prone to favor loss of vitreous and not the best for quick union, it is better to adopt a linear rather than a flap scleral wound. Corneal sections have only this advantage, that they enable us to secure a circular pupil.

Next succeeds an elaborate compilation and analysis of data—estimating results by a scale of vision, consisting of five subdivisions: No. 1 are cases who read Jaeger No. 1, 2, and 3, or Snellen $1\frac{1}{2}$ and 2. No. 2 read Jaeger 4 to 12 or Snellen $2\frac{1}{2}$ to 10. No. 3 read large letters, count figures at short distance, and can go about alone. No. 4 have only quantitative light. No. 5 have no perception of light. The several modes of operating are reviewed, viz.: the corneal flap, corneal linear extraction, the sclerotic flap, the scleral linear extraction. Corneal flap extraction is described, its accidents, its difficulties, its facilities, the process of healing, and a table of results presented. A collection is made of all cases published from the time of Daviel, 1774, the total being 8,889 cases, to which Rothmund contributes 396. Out of this number no other detail can be gotten than the percentage of total loss, which for the whole is 16.5. For the 10 operators of the last century, the loss is 25.4%; for the remaining 24 operators who belong to this century it is 13%. It is satisfactory to find the average skill to have so materially improved.

Prof. Rothmund's 396 cases, collected from 1855 to 1867, gave total loss 12.2%, only quantitative light 7.6%, see large type 8.1%, the rest, 72.1%, good results. His table is:

Total,	1	2	3	4	5
396	30.7	41.4	8.1	7.6	12.2

He found the lower section give better results than the upper, which is contrary to the general impression. The consistency of the cataract was of little influence, except in the Morgagnian variety, which gave the worst results. The influence of age up to 75 not to be stated with certainty. There are some irregularities in the results not easily accounted for. Marasmus, atrophy of skin, and other signs of senility, are not found to have as close a relation to prognosis as has been accredited to them.

Under the head of corneal flap extraction, the modification adopted by Mooren is considered: he made an iridectomy a few weeks prior to the extraction, and his first 59 cases gave only 3.4% total loss. This result afterward increased in his own hands to 7%.

Prof. Rothmund did 30 operations of this kind and had results not encouraging, viz.:

Total,	1	2	3	4	5
30	26.6	33.4	10.0	16.6	13.4

Not only does the total loss increase 1%, but columns three and four are greatly augmented.

Under corneal linear extraction are included the proposals of Graefe, of Waldau, and Critchett. The cases which Prof. Rothmund adds are not many, and the operation is not so earnestly discussed now as it was a few years ago. It is now chiefly confined to cases of soft cataract.

Sclerotic flap extraction, first distinctly proposed by Jacobson, has been imitated by Wecker and by Pagenstecher. The last delivers the lens without opening the capsule. Jacobson had total loss 2 %; Wecker, in 208 cases, had total loss 3 %, imperfect result 8 %, and 89 % good result. Among these cases were 66 in which the lens was brought out with unopened capsule. Of these were 9.1 % total loss, 2.27 % imperfect, and 68.2 % good result. Less favorable than the remaining cases. Pagenstecher claims the following:

Total,	1	2	3	4	5
63	46.0	36.6	7.9	6.3	3.2

Others have not attained equal success, and the method has not won general approval.

The chief interest of the paper lies in the results of linear scleral or peripheral linear extraction. Two methods are included—that of Mr. Bowman, who used a spoon; and that of Graefe, who first used a spoon or hook and now seldom resorts to it.

Mr. Bowman's success with his traction method was total loss 8.4 %, imperfect results 9 %, good 83.6 %.

Prof. Rothmund, in the following table, tells his experience of the traction method:

Total,	1	2	3	4	5
33	36.4	24.2	12.2	12.1	15.1

Prof. Graefe's operation is next described, and the various incidents which belong to it and to the healing process detailed. A table is given of 1,450 cases, by twelve operators, and the average percentage of total loss is 3.38; the extremes are 6.4 % and 2 %.

Prof. Rothmund gives the following table of his own cases:

Total,	1	2	3	4	5
186	32.3	48.3	3.8	11.8	3.8

To this should be added another table to give a fairer notion of the real results of this method. Seven operators give details, from which the following is compiled:

Total cases.	Perfect result.	Imperfect result.	Total loss.
1,013	85.6 %	11 %	3.4 %

Prof. Rothmund gives the following table as means of comparison between corneal flap extraction and peripheral linear extraction in his own practice:

	Total,	1	2	3	4	5
Corneal flap without iridectomy....	303	31.4	42.6	7.9	6.2	11.9
Graefe's method.....	186	32.3	48.3	3.8	11.8	3.8

It is instructive to notice how columns four and five are interchanged—the two together amounting for the corneal operation to 18.1 %, and for the sclerotic to 15.6 %. These two columns represent cases of non-success, and show that, while the scleral section is less liable to suppurative inflammations of the most destructive kind, it is not free from a damaging kind of inflammation, mostly irido-cyclitis or irido-choroiditis, which destroys useful vision. But, taking this into the account, a balance of 2.5 % remains in favor of the scleral section. In column three the credit to the scleral section is over 4 %, and these gains go chiefly into column two. The number of best results is about equally divided between the two modes of operating. Adding together columns 1 and 2, gives 74 % for corneal flap, and 80.6 % for Graefe's mode.

The visual tests have respect to the near point, and, taking this as a

standard, the influence of an iridectomy is hardly perceived, especially when done upward. But this does make itself known when the far point is taken for the test. Prof. Rothmund found, in such cases as he could examine, that, while for the near-point vision might be equally good, for the far point it was always better with the circular pupil. Graefe does not agree with this statement. But it is confirmed by the fact that a stenopaic slit raised the distant vision of the eye with coloboma to an equality with that of the eye whose pupil was round.

Loss of vitreous took place in 40 cases, or 21.5 %. Capsular cataracts ensued in 32 cases, or 17 %. Iritis occurred in 39 cases, or about 21 %.

Of 280 successful cases of flap extraction, 70 had the operation done on the second eye: of these, 6 failed and 64 succeeded—respectively 8.5 % and 91.5 %.

Of 39 who lost the first eye operated on, 12 had the second attempted, and in only 4 did success follow: 8 eyes or 66 % lost by panophthalmitis.

The conclusions of the able thesis of Dr. Dautone are:

1. Soft cataracts should be treated by discission, or by linear extraction, either simple or with precedent iridectomy.

2. Other forms of cataract should be extracted by a suitable section at the sclerotic border.

3. In exceptional cases a hard or semi-hard cataract may be extracted by the corneal section, providing that, for the sake of a round pupil and good vision for distance, a patient is willing to take double the risk of failure.

2.—*Further Remarks upon the Peripheral Linear Section for Cataract.*

By Prof. A. VON GRAEFE. [Archiv für Ophthal., Bd. xiv., iii., 106–148, 1868.]

Prof. Graefe adopts, for the section which he makes in extracting cataract, the name of peripheral linear section instead of scleral linear extraction. The reason for the name is, that the wound is situated in the sclera for scarcely half its extent, although made at the very margin of the anterior chamber. He gives it 5''' in length, and at its middle the height of the flap, that is, the distance between the straight line which joins its extremities and the summit of the arc, is from $\frac{1}{4}$ ''' to $\frac{3}{8}$ '''. The exterior parts of the wound are all in the sclera. Some thirteen pages are devoted to the discussion of the relations of the iris to the inner surface of the wound, and the mode of doing the iridectomy. The evil effects which often follow entanglement of the iris in the wound are now pretty well known—such as iritis serosa, tendency to cyclitis, even to suppurative processes in the wound, and the ulterior ill effects of slight herniæ iridis. To avoid these mischiefs, great care must be given to the iris excision; to do it by three or four cuts of the scissors pressed down on the sclera, the angles to be cut clean, and if iris remain in the wound, to procure its return by pressing on the eye by the rubber spoon or even pushing it back by the cystitome. The tension of the globe has a great influence on this condition—and for this reason chloroform confers advantages. Graefe says that now he uses chloroform about once in twenty times. He incidentally remarks that at this time (about September, 1868), he had done this kind of extraction about eight hundred times.

The conclusion of the article relates to other cases where the peripheral section is desirable—but these are now pretty well understood.

3.—*Report and Remarks on a Third Series of One Hundred Cases of Cataract Extraction by the Peripheral Linear Method.* By Dr. H. KNAPP. [Archives for Ophthalmology and Otology, i., 1, 103–131, 1869.]

These cases, which were operated on at the clinic in Heidelberg, are

made the text of a paper which largely discusses the interesting topic of the accidents which may occur after Graefe's operation. These are enumerated as being: after-hæmorrhage, 6 times; iritis, 7 times; capsulitis, 3 times; capsulo-iritis, 1 time; exudative hyalitis, 1 time; capsulo-hyalitis, 2 times; suppurative keratitis, 1 time. The duration of the patients' stay in the hospital averaged $14\frac{1}{10}$ days. The results as to vision are 83 with vision equal to and better than $\frac{1}{10}$; 10 with vision equal to and better than $\frac{1}{20}$; 1 with v. = $\frac{1}{200}$; 3 having blindness remediable by another operation; 3 hopelessly blind. The result as summed up is 3% of total loss; 6% imperfect result; 91% of good success.

This series of cases might be added to those enumerated in Dr. Dautone's tables, and, though the paper is full of valuable suggestions, we may not quote further.

4.—*Cataract Extraction Operations.* By HENRY W. WILLIAMS, M. D., of Boston, Mass. [Archives for Ophthalmology and Otolaryngology, vol. i., 1, 98-102, 1869.]

The author calls attention to his method of doing flap extraction by corneal section and securing union of the wound by a suture. The facts by which he supports his views are not adduced in this paper, but are contained, so far as published, in the "Transactions of the American Ophthalmological Society" for 1868. Forty-four cases were operated on. Of these, thirty-six were successful, four partially successful, four were failures. Of the failures, two might properly be excluded from the reckoning, because they had irido-choroiditis before the operation, and were not expected to turn out well. If we do this, the percentage becomes: full success, 85.5%; partial success, 9.5%; failure, 5%. The aim of this method is to secure a better degree of vision than when an iridectomy is made. The absence of exact figures in Dr. Williams's table renders it impossible to make the comparison. The summing up as given above does not equal in fewness of total failures the statistics given of Graefe's operation where one thousand cases by seven operators are collected. It is very desirable to know what is the exact degree of vision. Comparing this method with flap extraction without suture, the percentage of failure stands as 5 against 13. Without claiming that this is truly a reliable proportion, because on the one hand there are very few cases and one operator, and on the other several thousand cases and many operators, there would seem little doubt that the suture diminishes the dangers of flap corneal extraction, and leaves the desideratum of a normal pupil. The real competitor with which this mode of operating must contend is peripheral linear extraction.

5.—*A Method of dressing Eyes after Cataract Extraction, and other Ophthalmic Operations requiring Rest by Exclusion of Light.* By C. R. AGNEW, M. D., of New York. [Transactions of American Ophthalmological Society for 1869, pp. 64-67.]

The method consists in closing the lids, as was formerly done, by strips of isinglass-plaster, and then covering the middle portions of the face by a square patch of black silk, which is held in position by strips of plaster pasted on its edges. Stress is laid very properly on the advantages of treating patients in light rather than in dark rooms. The abandonment of pressure in dressing operated eyes is not in accordance with the recent efforts of ophthalmic surgeons; the plaster-dressing has long been practised, and, to a great extent, has given place to the flannel, or equivalent elastic bandage.

Not to remove the dressing until the expiration of five days, as the author says is his common practice, implies a confidence in the intelligent coöperation of the *vis medicatrix nature* with his surgical efforts, which few surgeons enjoy. A remonstrance against "the meddling officious-

ness of a peeping pathologist" would be more forcible could we know how frequently the author encounters membraniform obstructions of the pupil with or without adhesions of the iris after extraction. Most surgeons regard it very important to secure an early dilatation of the pupil, so, as far as possible, to avoid adhesions with portions of lens matter, which, because often transparent, may be left in the eye and become the nucleus of capsulitis or iritis.

6.—*Dislocation of the Crystalline Lens into the Corpus Vitreum, and afterward into the Anterior Chamber: the Effect on Refraction.* By HENRY D. NOYES, M.D. [Archives for Ophthalmology and Otology, vol. i., 1, 27-39.]

This case, in which the first displacement was caused by a blow and the second by sneezing, was interesting, as showing what was the optical effect of the change of position of the lens. It was found to be equal to M 1-6 in addition to myopic astigmatism of 1-24. The lens remained clear for about six weeks, and the eye then became severely inflamed, and the lens was removed, but without saving the organ.

A case in some respects similar, though spontaneous, is recorded by Graefe (Archiv, Bd. i., 338). The lens remained in the anterior chamber, without loss of clearness, for ten months. It became hazy, was needled, the cornea ulcerated, and the lens and capsule together escaped, and the eye was lost. A dislocation of the lens also occurred in the boy's other eye, the vitreous being fluid in both. A case is said to have been seen by C. Jaeger, in which the lens, luxated into the anterior chamber, remained clear for thirty years.

7.—*Resultat einiger Versuche über die Entstehung der Glaskörper-Ablösung in Folge von Glaskörperverlust.* Von Dr. H. DE GONVÉA. [Archiv für Ophth., Bd. xv., 1.]

Results of Experiments on Detachment of the Corpus Vitreum, after a Portion of it has been lost. By Dr. H. DE GONVÉA.

This paper is only the experimental part of a larger work by Iwanoff, which will appear in the next number of the Archives.

The researches of Dr. de Gouvéa were made upon the eyes of dogs. His method was as follows: He extracted the lens, or a portion of it, caused prolapse of vitreous, cut off with scissors the protruding portion, and closed the eye with sutures. After a period of time, varying from one to forty days, the eye was enucleated, hardened in preservative fluid, and examined both macroscopically and microscopically.

De Gouvéa bases upon his experiments the following conclusions:

1. That, after considerable loss of vitreous, the hyaloid is likely to be detached from the retina, and in such a way that between the two lies a fluid, which probably transudes from the choroidal vessels.

2. That, upon the detachment of the vitreous, may follow a detachment of the retina, accompanied by a similar exudation of fluid. The immediate cause of this detachment is either (according to Iwanoff) traction made upon the retina by the vitreous body adherent to the wound, or the loss of proper support, a thin fluid being substituted for the comparatively thick corpus vitreum.

3. That further, a detachment of the choroid may follow, which takes place by means of an exudation of fluid in the meshes of the lamina fusca. This exudation seemed to be easily absorbed, for choroidal detachment was found only in those cases where the eye was examined four to eight days after the operation.

The periods at which these changes occur are, in one to two days, simple detachment of vitreous; in three to four days, detachment of vitreous and

incipiently of retina; in four to eight days, detachment of vitreous, retina, and choroid; in thirty to forty days, complete detachment of retina and atrophy of vitreous. An account is given of the microscopic changes in the wound and in all the tissues. They consist mostly of evidences of irritation immediately in and about the wound, such as are incidental to the healing process. No signs of deeper trouble or cell-growth could be found.

REFRACTION AND ACCOMMODATION.

1.—*Modifications of Astigmatism produced by the Accommodation.* By Dr. W. DOBROWSKY. From the Clinic of Prof. Ed. Junge, St. Petersburg. [Archiv für Ophthal., Bd. xiv., iii., s. 51-105.]

The author of this paper endeavors to elucidate the effect which the accommodation has upon astigmatism. He first advances the proposition that, by spasm of the ciliary muscle, astigmatism may be fully compensated and annulled. This he proves, first, by a series of cases, in which asthenopia was found to depend on latent astigmatism; the existence of the refractive error was discovered only by the vigorous and prolonged use of atropine. He next undertook a series of experiments upon himself and upon a colleague. One eye he paralyzed by atropine, the other was left normal, and he made many trials of cylindrical and spherical glasses. These were varied in every possible manner. He concludes that, for an astigmatic eye with accommodation entirely suspended, the best vision is obtained when the retinal image is formed at a point midway between the two extreme foci, where the circles of dispersion are circular and not oval. But he found that this was not true, when the accommodation was active. On the contrary, the accommodation often abolished the astigmatism, as shown by the perfect definition of very fine print. This was not always accomplished, and required a sensible effort and practice. He could, with hypermetropic astigmatism 1-20, read Snellen xx. at 20 feet. He even concludes that it is easier to overcome a refractive error calling for a cylindrical glass, than an equal error calling for a spherical glass.

The experiments are very numerous, and cover many details which cannot here be cited.

His second proposition is, that unequal contraction of the ciliary muscle and unequal bulging of the lens may diminish astigmatism without causing its entire disappearance. In proof, he reports a case and alludes to others.

In the third place, he asserts that strain and spasm of accommodation may increase astigmatism, and reports a case of myopic and one of hypermetropic astigmatism thus evoked.

Fourthly, spasm of accommodation may change the type of hypermetropic astigmatism, and even transform II to M in one or both meridians.

Fifthly, tetanic contraction of the ciliary muscle may so far increase an insignificant degree of astigmatism as to render it necessary to be corrected by glasses.

From these investigations, which are deeply interesting, he concludes that a correct diagnosis and treatment of astigmatism cannot be made without resorting to the full influence of atropine in addition to the other methods.

2.—*The Inaccuracy introduced into the Determination of Visual Acuteness by disregarding the Magnifying or Diminishing Power of Spectacles.* By Dr. H. KNAPP, of New York. [Transactions of American Ophthalmological Society for 1869, 9-14.]

The paper takes up a point which has long been recognized, and submits it to a rigorous investigation. By mathematical calculation the author

demonstrates the remarkable fact that spectacles worn half an inch before the eye do not alter the position of the first cardinal points, nor the focal lengths of the eye, while they cause the second cardinal points to move forward, if the spectacles are positive, and backward, if they are negative. From this it follows that the visual angle remains unchanged, although the arc which it subtends on the retina varies. In hypermetropia, when the axis is shorter, the retinal elements are crowded together; in myopia the rods and cones are spread out by the distention of the globe over a larger surface, and here the axis is longer. It follows, then, that the pushing forward of the second nodal point by convex glasses in hyperopia, and the pushing back of the second nodal point by concave glasses in myopia, is in both cases to some degree counteracted in optical effect by the anatomical changes in the retinal elements.

Leaving this out of account, a table is given showing what allowance should be made for glasses in testing visual acuteness :

With + 5 v. should be $\frac{23.44}{20}$	With - 5 v. should be $\frac{17.44}{20}$
With + 4 v. should be $\frac{24.35}{20}$	With - 4 v. should be $\frac{16.9}{20}$
With + 3 v. should be $\frac{26.48}{20}$	With - 3 v. should be $\frac{15.07}{20}$
With + 2 v. should be $\frac{31.60}{20}$	With - 2 v. should be $\frac{12.63}{20}$

3.—*Test-Type for Astigmatism.* By Dr. ORESTES M. PRAY, of Brooklyn, N. Y. [Archives for Ophthalmology and Otology, i., 1, 17-21.]

The test-letters which Dr. Pray, whose sudden death was so much regretted, proposed for aiding the diagnosis of astigmatism, have been so generally accepted as a valuable diagnostic that it is hardly needful to call attention to them. They meet the case of a great many patients whose perceptions are not awakened by other and more abstract methods. The familiarity of the objects appeals to their comprehension, and they give intelligent answers when they otherwise might fail to do so. It may be observed that the question to be put is not whether the patient can designate every letter, but whether he can discern the component strokes of every letter, and with equal distinctness for all. The method of using glasses, spherical and cylindrical, with or without the slit, is the same as with other tests, such as Green's or Becker's, etc.

4.—*Studies in Ophthalmometry.* By Dr. AUG. REUSS, Assistant in the Eye Clinic of the Vienna University, and Dr. M. WERNOW, of Moscow. (With five woodcuts.) Vienna, 1869; pp. 59.

This *brochure* consists of three parts: 1. **Measurements** of the cornea after extraction of cataract, with the purpose of ascertaining its astigmatism. 2. Description of a new apparatus for taking these measurements. 3. The determination of the angle α (alpha). In all these investigations Helmholtz's ophthalmometer is employed, and the novelty of the apparatus consists in a system of mirrors for reflecting the light used as an object. It would be of no value to epitomize the description of it; neither does it come within the scope of this digest to say more about the angle α (alpha) than to state that by it is meant that the axis of the ellipsoid of the cornea as a mathematical figure does not coincide with the line of vision, and the angle between these lines is designated α . In the majority of eyes the line of vision is to the inner side of the axis of the cornea. It is found that the relation of these lines, and consequently the angle, changes with the accommodation—the cause being that the dioptric system is not correctly centred. The extremes of the angle are from $7^{\circ} 13' 1''$ to $2^{\circ} 37' 40''$, the number of observations of different persons being seven. The average is about 4° .

The first section of the paper is directly practical. Dr. Reuss applied his method of ophthalmometry to 31 eyes of 25 patients, who had had extraction of cataract. In 23 eyes the degree of astigmatism was ascertained both before and after the operation. In 7 of these the primary astigmatism was less than $\frac{1}{4}$, in 6 below $\frac{1}{2}$, in 11 less than $\frac{1}{10}$, in 2 more than $\frac{1}{10}$. The maximum of curve belonged to the vertical meridian 13 times, to an oblique meridian 8 times, to the horizontal 3 times. Measurements were taken from 9 to 14 days after the operation. As the cicatrix becomes more firm the astigmatism diminishes, as Haas noticed, but the error seldom entirely disappears. The amount of astigmatism was decidedly greater after the corneal flap than after peripheral linear extraction; the number of cases of the former kind was small.

The astigmatism after extraction was in 3 cases more than $\frac{1}{2}$, in 2 more than $\frac{1}{3}$, in 4 more than $\frac{1}{10}$, in 5 more than $\frac{1}{15}$, in 8 more than $\frac{1}{24}$, in 5 more than $\frac{1}{36}$, in one only $\frac{1}{72}$.

In 21 of 31 cases the maximum of curvature after the operation is in the horizontal meridian, and in but one case is it in the vertical; in the remaining 9 cases it is in one of the oblique meridians corresponding to the angles of the wound. The new tissue intercalated in the wound enlarges the curve of the cornea, and thus diminishes the radius of the vertical meridian. If either iris or pigment or a large quantity of reparative material interposes, the curve is made larger; and, if there be prolapsus iridis at the angles, the astigmatism is apt to be irregular as well as oblique.

The improvement in vision by adapting cylindrical as well as spherical glasses is set forth in detail in tabular form. The vision is taken both for near and far points. The existence of slight pupillary obstructions, of course, hindered the success of the attempts; but where these were absent, the vision, impaired by irregularity of the cornea, rose rapidly in response to the cylindrical glasses—for instance, from $\frac{2}{100}$ or $\frac{2}{70}$ to $\frac{2}{20}$, from $\frac{2}{70}$ to $\frac{2}{30}$, or from $\frac{2}{100}$ to $\frac{2}{40}$. In some cases the irregularity of the astigmatism prevented much improvement.

The glasses were selected in accordance with the measurements of the ophthalmometer, which the authors found a speedier process than to test by glasses. (We doubt whether the usual method by glasses would be found tedious, when Green's tables and Pray's type are employed, provided the person have moderate intelligence. Such has been our experience.)

In the whole number of cases after correcting astigmatism:

Vision in 4 eyes = $\frac{2}{30}$
 Vision in 10 eyes = $\frac{2}{30}$
 Vision in 7 eyes = $\frac{2}{40}$

Vision in 3 eyes = $\frac{2}{30}$
 Vision in 4 eyes = $\frac{2}{70}$
 Vision in 1 eye = $\frac{2}{200}$

For the near point vision was relatively better; most could read Jaeger No. 1 at 8"; the remainder read Jaeger Nos. 2, 3, 4, or 6.

We have reason to thank the authors for making these exact investigations, not that they give so much new information, but make our knowledge more precise, and show how much improvement of vision we may expect to gain by attending to the asymmetry of the cornea, which must almost always ensue after cataract extraction.

RETINA AND OPTIC NERVE.

- 1.—*Embolism of a Branch of the Retinal Artery with Hæmorrhagic Infarctus in the Retina.* By H. KNAPP, M. D. [Archiv für Ophthal. and Otologie, vol. i., 1, 64–84, 1869.]

This most interesting case is the third of its kind which has been published. The patient, a woman aged thirty-seven, had endo- and pericarditis. Some time, exactly how long is not stated, after the beginning of her

troubles, she found while reading that a haziness overspread the sight of one eye. Three weeks after this took place, she was seen by Dr. Knapp, who found the inner and lower quadrant of the visual field entirely defective, the remaining parts of the field normal, direct vision $\frac{1}{2}$. The lesion was found by the ophthalmoscope to be a plug in the upper branch of the central artery of the retina, at the distance of about one diameter of the disk from the nerve. Over the part of the retina corresponding to the visual defect, numerous apoplexies were scattered, and the retina had a reddish-yellow opacity. All the venous twigs coming from the lower half of the retina were distended, and so too were those which covered over the affected part of the retina. Beyond the place where it was plugged the artery had about $\frac{2}{3}$ its normal calibre. Pressure on the globe by the finger could make other arteries pulsate, but not this branch.

In the course of eight months, although the hæmorrhages were absorbed, the retina did not recover its clearness nor any improvement in the function of this surface. But the central vision improved to nearly the normal degree.

A chromo-lithograph illustrates the ophthalmoscopic appearances. A discussion of the way in which the phenomena were brought about occupies most of the paper—and, though interesting, we may not attempt its citation.

This case is valuable in giving us hints as to the explanation of the phenomena of embolism, and in interest even goes beyond those of embolism of the trunk of the central retinal artery, of which many have now been observed. The discoloration at the macula lutea occurred in this case as well as in other embolic cases, and still admits of doubt as to its perfect explanation.

2.—*Der Markschwamm der Netzhaut. Eine Monographie.* Von Dr. J. HIRSCHBERG. 1869.

Carcinoma of the Retina. A Monograph, by Dr. J. HIRSCHBERG. 1869.

Hirschberg has compiled a series of cases of glioma of the retina (77 in number), dating from the year 1767 up to the present time. By means of specimens in the Berlin Museum of Anatomy, he has been enabled to identify the fungus medullaris, or hæmatodes of the earlier writers, with the disease which Virchow first described as glioma retinae. For these specimens, observed and handled by Von Graefe, Kluge, Rust, Jüngken, and Helling, carefully preserved by John Müller, fifty years ago, and described by him as carcinoma medullare, were found to present without doubt the microscopical structure of glioma.

Virchow and Knapp described glioma as taking its origin from the external granular layer of the retina. Hirschberg, on the contrary, makes the inner granular layer the starting-point of glioma. From this point the new growth breaks through into the external granular layer, and there extends itself.

The following are, in a few words, some of Hirschberg's results as to the prognosis and therapeutics of glioma:

1. Glioma, left to itself, always leads to a fatal termination.
2. Operative interference, in the vast majority of cases (in all those where the new growth has already filled the posterior chamber), has been ineffectual in stopping the progress of the disease.
3. In only 5 out of the 77 cases cited has a long interval of freedom from disease followed operation.
4. Operation in the later stages, when the posterior chamber has been filled, does not hasten a fatal result, or render more imminent a generalization of the disease.

The indications are:

1. In the first stage of the disease, enucleate the eye, and that as soon as possible, in the hope of extirpating in a histological sense every particle of diseased tissue.

2. Even in the later stages, the removal of all the tissue invaded by the glioma is indicated. Here recourse may be had to the extirpation of the contents of the orbit, even to its periosteum.

3. Brain-symptoms and metastases forbid the plan of a radical operation, but extirpation may be taken into consideration as a palliative means.

4. In cases of glioma of both sides, it is not advisable to operate.

3.—*Ueber die pathologisch-anatomischen Veränderungen der Augen-Medien und Häute bei Intraoculären Tumoren.* Von Dr. HERMANN BERTHOLD. [Archiv für Ophth., Bd. xv., 1.]

The Pathological Changes in the Media and Membranes of the Eye from Intraocular Tumors.

Berthold contributes to the literature of intraocular tumors the history of eight cases of sarcoma taken from the clinic of Prof. Förster, of Breslau. Of these eight cases, six had their starting-point in the choroid, one in the corpus ciliare and iris, and one in the sclera. Where the sarcomatous growth originated in the choroid, the middle coats of this membrane were the earliest invaded, for in most cases it was easy to recognize the lamina elastica and the choroidal epithelium on the inner surface of the tumor, and the lamina fusca on its outer surface. In the case starting from the sclerotic, also the middle layers seemed to be chosen.

In spreading, the tumor respected the optic nerve, for in none of the cases was its region invaded, nor did the disease ever spread beyond it.

The choroid, as well as the iris and ciliary body, exhibited only passive changes, except where they had been invaded by the sarcomatous disease. These changes were, for the most part, disappearance of the stromal pigment, with general atrophy of the tissue and its vessels.

The retina remained during the first stages free from disease, owing to its early detachment. As the tumor increases, it can attach itself to the retina, which may, as in one case, undergo sarcomatous degeneration—a case analogous to those in which glioma of the retina is planted in the choroid.

The subretinal fluid was serum tinged with blood. In proportion as it increased in quantity and the detachment of the retina became more considerable, the corpus vitreum disappeared and took on readily the same appearance as the subretinal fluid. Not uncommonly were found in the vitreous body cells of various size and form, especially spindle-cells with many and long processes. Blood-vessels were also often found in this tissue.

The lens was early pushed forward, and thus encroached upon the anterior chamber. Later the anterior chamber becomes still shallower, and at last the lens lies against the cornea and toward the side opposite the tumor. The lens-substance was seldom much altered, with the exception of an increase in its nuclei. The capsule showed at the most only a slight cloudiness.

The sclerotic seemed to be easily invaded. In those cases where extraocular tumors were formed there could be traced groups of cells, scattered for the most part along the course of the vessels and tending to connect the intra- with the extraocular tumor. These groups of cells were, it is true, never found in continued lines reaching from one tumor to the other, being generally separated by the bundles of the sclerotic; but it was none the less to be doubted how these extraocular tumors came into existence.

The interlamellar spaces of the cornea were enlarged and filled with cells similar to the white-blood corpuscles. The possible termination of the changes in the cornea is perforation of this membrane, with perhaps prolapse of the iris and lens, as was remarked in one case. Should the eye not be extirpated at this period, doubtless complete destruction of the cornea would ensue, with escape of the lens and protrusion of the new growth.

In all of Berthold's cases except one the posterior portion of the eyeball not far from the nerve was the part first affected. Three of his cases occurred in children from three to seven years of age.

As regards the malignity of these tumors, only in one case was there recurrence of the disease; this recurrence was slight, easily removed, and did not again return. But it should be added that none of these cases were seen later than five years after the operation, and most of them not more than two. Berthold says that Prof. Förster has never seen a return of the disease, after the removal of eyes suffering from choroidal sarcoma, and he himself does not consider it so very malignant. Von Graefe, on the contrary, has often seen metastases of this disease, and holds it for very malignant. Knapp also holds sarcoma of the choroid for a malignant growth, though not of the first rank, like carcinoma. Out of the eight cases, recorded in his "Intraocular Tumors," four died with metastases of the disease in the liver, kidneys, and other internal organs.

4.—*Beitrag zur Lehre von den Intraocularen Tumoren.* Von Prof. ALFRED GRAEFE. [Zehender's Monatsblätter, June, 1869.]

Prof. Graefe, of Halle, gives two cases of sarcoma of the choroid, which in the early stages were difficult to diagnose from cysticercus growing behind the retina. The regular spherical form, sometimes assumed by beginning choroidal tumors, gave rise to the doubt, while the loss of transparency of the retina, and its peculiar reflex, made it impossible to distinguish character or movements of the abnormal growth.

GLOBE.

1.—*Influence of the Nerves upon Intraocular Pressure.* By Dr. A. V. HIPPEL and Dr. A. GRÜNHAGEN. [Archiv. für Opthal., xiv., iii., pp. 219-258.]

The experiments described were conducted by putting animals under the influence of woorara, and keeping up artificial respiration, thus rendering voluntary movements impossible. The variations in pressure of the circulation caused by respiration were so far ascertained and measured that allowance could be made for them. The pressure of the contents of the eye was determined by a manometer constructed upon an improved plan, by which the liabilities to error were reduced to a minimum. The various sources of mistake are fully considered, and so far provided against as to make the results in the main worthy of confidence.

The problem presented was to discover what effect on the volume of the contents of the eyeball is exerted by the third, the fifth, and the sympathetic nerves.

The oculo-motor, by its control of the external muscles of the globe and of the lids, may exert a powerful pressure on the eye—the intraocular pressure rising on the scale of the manometer from 24 mm. to 90 mm. of the column of mercury. But whether it can do the same through the internal muscles of the eye is a more difficult question.

The authors agree, with Hensen and Voelcker, in stating that neither the iris muscles nor the ciliary muscle have any influence over the pressure within the anterior or vitreous chambers. The latter experi-

menters have shown conclusively that the ciliary muscle is under the exclusive control of the third nerve, and not influenced by the sympathetic. Neither does the accommodation nor the action of the pupil in the least degree influence the circulation in the retina.

The well-known functions of the sympathetic nerve upon the eye are to cause dilatation of the pupil, to diminish the size of the vessels, and produce contraction in the unstriated muscular fibres which exist in the orbit. By these muscles the space within the orbit is diminished, and the eyeball pushed a little forward. Adamiuck demonstrated that irritation of the cervical cord of the sympathetic increases intraocular pressure. The explanation is to be sought in the contraction of the non-striated muscles in the oculo-orbital fascia and the connective tissue. The effect of contraction of the intraocular blood-vessels is to abate the tension, but this is speedily counterbalanced by the action of the orbital muscles just named.

In connection with this part of the discussion comes up the direct effect of the circulation upon the ocular tension. The following results were obtained: Ligation of the carotid reduces the ocular tension of the corresponding eye from one-half to one-third. Death of the animal reduces it about one-half. Intraocular tension is, therefore, the result of the pressure of the blood in the vessels, and the pressure of the fluid contents of the globe upon the sclera.

To increase the vascular tension a ligature was put around the abdominal aorta; intraocular tension was more than doubled, and very quickly sank on taking off the ligature, but not quite to the normal. Suspension of respiration in animals poisoned by woorara raised the intraocular tension about one-third. This was strikingly shown in connection with experiments upon the effects of atropia. When this had been injected into the carotid of a rabbit, the pressure of the circulation sank from 100 mm. to 38 mm. of mercury; and, when respiration was uninterrupted, the pressure of the blood rose to 85 mm. This effect of atropia should be remembered.

The inference from the experiments described is, that the sympathetic has very little influence on intraocular tension.

The next nerve to be considered is the fifth, or trigeminus. In cats poisoned by woorara, needles were passed into the medulla oblongata at the origin of the nerve, and the electric current passed. In all cases where the proper situation was reached, an enormous increase of tension was promptly produced in both eyes. The mercury in the manometer even began to pulsate. The increase ensued in eyes under the influence of atropine, and in those in which, several weeks before, iridectomy had been done. The irritation of the fifth nerve produced the same results, whether the sympathetic in the neck had been severed or not. The explanation of this increase of tension is by the assumption of active dilatation of the vessels of the choroid (the retinal vessels are contracted), and of increased transudation of fluid into the eye. The tension abates gradually when the nerve ceases to be irritated.

An interesting experiment is that, if the spinal cord be cut between the atlas and the occiput, irritation of the lower end above the third vertebra produces no increase of ocular tension; in this case all the vaso-motor nerves are irritated except the fifth pair. This is the counterpart of the experiment on the trigeminus in the medulla.

In applying the above experiments to the etiology of glaucoma, the authors think the best explanation of the phenomena is to suppose an irritation of the fifth nerve to excite undue secretion in the eye, and, as the pressure increases, the *venæ vorticosæ*, as they pass through the sclera, become compressed, and in this way all the symptoms are evoked. This seems plausible for glaucoma simplex, but other causes must come in play

to bring about the chronic and acute inflammatory phenomena which occur. What these additional causes are is not clear.

The production of secondary glaucoma after discission or reclination of the lens, the entrance of foreign bodies, or total posterior synechia, is, by the above theory, rendered very intelligible.

INSTRUMENTS AND APPARATUS.

- 1.—*A New Method of applying Pressure to the Eye.* By Dr. E. DYER, of Philadelphia. [Transactions of the American Ophthalmological Society for 1869, 60-64, illustrated by woodcuts.]

The author has invented an apparatus consisting of a cup, shaped to the outline of the front of the orbit, covered by an india-rubber membrane, to be laid on the eye, and connected with an india-rubber tube by which it is filled with water.

The height of the column of water regulates the degree of pressure on the eye. The cup is kept in place by a band which goes around the head, and is most conveniently applied when the patient is in bed. At the end of the tubing, which is about three feet long, is a glass tube six inches long, in which the level of the water can be seen. The tube may be suspended from above by a string, and the pressure regulated with exactness; the bore of the tube being such that each inch in length equals about one and a half ounces of water. The flexibility of the tube permits the patient to change his position without materially altering the pressure.

This novel expedient is certainly capable of various adaptations, and is worth trying. The woodcuts give a very good notion of the apparatus.

- 2.—*Instruments used for holding the Lids in Performing Operations on the Eye.* By Prof. A. COCCIUS. Leipsic, 1869. 28 pages.
An Improved Eye Speculum. By HENRY D. NOYES, M. D., New York. [Transactions of the American Ophthalmological Society, 1869, 54-58.]

The paper by Prof. Coccius is a dissertation read at a celebration of the University of Leipsic, in honor of Prof. Ernest Gotlob Bosius. It gives an account of the instruments formerly in use, as well as many now employed, sets forth the difficulties to be encountered, and describes that which the author employs. There is no plate to illustrate its construction, but it is said to weigh only six grammes (90 grains), to be modelled after Critchett's speculum, and to be prolonged on the nasal side, so that the upper end loops around to pass through an eye in the lower, and is fixed by a screw. A speculum, in some respects answering to this description, has been in existence about four years, made by Weiss, of London. This of Coccius has two screws—one on the temporal and one on the nasal side—and forms an irregular parallelogram. It would appear that the speculum must, in some degree, obstruct operations, or use of instruments, on the nasal side of the eyeball; but, without seeing it, one cannot form a good opinion.

The instrument invented by Dr. Noyes secures a perfect separation of the lids, and is prevented from spreading to an undue degree by a peculiar Y-shaped arrangement which is controlled by a screw. It is made with a spring so stiff as to successfully resist the orbicularis, and it lies flat against the temple. It also keeps the cilia out of the way. It weighs less than the ordinary Critchett's specula, viz., 75 grains, and presents no obstacles to the surgeon's manipulations. It is made of steel, and plated with gold or nickel. It is made by instrument-makers in this city, and its merits may easily be tested.

3.—*A Modification of the Ophthalmoscope.* By Dr. EDWARD G. LORING, of New York. [Transactions of the American Ophthalmological Society for 1869, 47-51, with plate.]

4.—*A Modification of the Ophthalmoscope.* By Dr. HENRY D. NOYES, of New York. [Transactions of the American Ophthalmological Society for 1869, 51-54, with plate.]

Both the instruments above alluded to are designed to facilitate the use of the upright image, while both are available for the inverted image. Dr. Loring's ophthalmoscope is most beautiful in design and finish, and accomplishes its purpose of giving a large number of concave and convex glasses by having eight set in a revolving disk, which is readily slipped into a cell on the back of the mirror. There are three of these disks, and in all twenty-three glasses. No instrument so perfect as this has hitherto been constructed, while the very perfection of mechanical execution which makes it desirable renders it expensive.

The ophthalmoscope of Dr. Noyes is extremely simple in construction, and is intended to be an appurtenance to the box of trial-glasses. It has two clips into which the glasses from the trial-box may be slipped—one glass spherical, and, if needful, another cylindrical. The mirror, which is plane, may be slipped out of the clip which holds it, and which swings on a hinge.

This simple contrivance puts at command all the spectacle-glasses which we ordinarily employ, for the use of ophthalmoscopy, and enables us to offset or complete the usual methods of determining refraction.

Both the instruments are illustrated by plates, without which a more extended description would be unintelligible.

Upon the Termination of the Nerve-fibres in the Retina of Men and Animals. By MAX SCHULTZE. [Archiv für Mikroskopische Anatomie herausgegeben. Von Max Schultz, Bd. v., 4.]

The Musculus Dilator Pupillæ in Mammalia, Men, and Birds. By JOHN DOGIEL. [Archiv für Mikroskopische Anatomie, Bd. 6-1.]

Essay upon a New Optometer for diagnosing and measuring all Errors of Refraction of the Eye. By Mm. MAURICE PERRIN and MASCART. [Annales d'oculistique, July-August, 1869, 5-17.]

Sympathetic Troubles of Sight. By Dr. ALBERT MOREN. Berlin, 1869, pp. 169.

Experimental Researches on the Errors of Form and Accommodation of the Human Eye. By Dr. ALBERT SCHUMANN. Dresden, Leipsic, 1869, pp. 25.

Lessons on Refraction and Accommodation given at l'Ecole Pratique, Paris. By Dr. EDWARD MEYER. 1869, pp. 270.

The Zoetrope and its Antecedents. By WILLIAM B. CARPENTER, M. D. [The Student and Intellectual Observer, London, July, 1868, 427-445.]

Sudden Changes in the Refraction of the Eye. By Dr. LAQUEUR, of Paris. [Annales d'oculistique, May-June, 1869, 205-219.]

Recent Progress in the Theory of Vision (translated from German by Dr. E. JAVAL.) By Prof. HELMHOLTZ. [Annales d'oculistique, January-June, 1869.]

Contributions to the History of Ophthalmic Surgery among the Ancients. By Dr. ANAGNOSTAKIS, of Athens. [Annales d'oculistique, March-April, 1869, 115-124.]

Clinical Studies upon Glaucoma. By Dr. LAQUEUR. [Annales d'oculistique, January-February, 1869, 35-59.]

Ophthalmological Physics and their Practical Application for Physicians and Students. By Dr. HUGO GEROLD. Part i., with 139 woodcuts. Vienna, 1869, pp. 372.

Handbook of Diseases of the Eye. By Drs. SEITZ and ZEHENDER, 2d edition, Part iv. Erlangen, 1869, 757-1099.

Lectures on the Histology of the Eye. By J. W. HULKE. [British Medical Journal, Nos. 444, 445, 447, 452, 453.]

Relative Accommodation in Strabismus and Insufficiency of the Recti Muscles. By Dr. E. G. LORING, of New York. [Transactions of the American Ophthalmological Society for 1869, pp. 17-43.]

Vascular Tumor of Iris, probably Sarcomatous, with colored Plate. By Dr. D. B. ST. JOHN ROOSA, of New York. [Transactions of the American Ophthalmological Society for 1869.]

Fracture of the Crystalline Lens in Persons executed by Hanging. By E. DYER, M. D., of Philadelphia. [Transactions of the American Ophthalmological Society for 1869, pp. 72-75.]

Miscellaneous and Scientific Notes.

WITH the view of changing the date of the commencement of our volumes to January and July, we close Volume X. with the present number. The two succeeding volumes will contain each five numbers, so that Volume XIII. will commence with the incoming of the next year. This change, which is undertaken simply for the convenience of our publishers, in no way affects the subscriptions of our patrons, though it is hoped gradually to adjust all accounts, so that they shall commence either with January or July.

PROFESSORS T. G. THOMAS and Isaac E. Taylor, and Drs. T. A. Emmet and Stephen Rogers, of this city, have been elected corresponding members of the Obstetrical Society of Berlin.

THE degree of M. D. was conferred upon twenty-eight graduates of the Albany Medical School, at the commencement, December 23, 1869.

MEDICAL COLLEGE CONVENTION.—To the Trustees and Faculties of the Medical Colleges of the United States :

The undersigned Committee, in accordance with the instructions of the Convention of Delegates from Medical Colleges, held in Cincinnati, in May, 1866, respectfully and earnestly invite you to send Delegates to a Convention to be held

in the City of Washington, on the *Friday* preceding the *first* Tuesday in May, 1870, for the purpose of considering all subjects connected with medical college education; and procuring the coöperation of the schools in carrying out a uniform system of medical instruction.

It is very desirable that every medical college in the country should be represented in the Convention.

CHICAGO, ILL., *December 22, 1869.*

N. S. DAVIS,	} Committee.
S. D. GROSS,	
GEORGE A. BLACKMAN,	
F. DONALDSON.	

UNIVERSITY OF MICHIGAN,
ANN HARBOR, MICH., *January 7, 1870.*

Editor New York Medical Journal:

DEAR SIR: Surrounded as you are, by the great metropolitan medical schools, with their large classes and accomplished teachers, yet it may not be wholly uninteresting to your readers to learn something of this young but thrifty institution. Founded upon a broad, catholic basis, and entirely free from all the entanglements of sect, it certainly has great capacities for usefulness. And, if the administration of its affairs continues to be as wise as it has been in the past, the future history of the university will be all that its most earnest well-wisher could desire. It cannot be denied that it has elements of weakness, but they are such alone as pertain to every institution of learning that is at the disposal of a legislative body. Hitherto the pride and honor of the State have been so identified with it, that the election of Regents has, in the main, been prudent, and their administration judicious. As the Legislature comes to contain greater numbers of the alumni each successive year, so its safety becomes more and more assured.

At present the whole number of students numbers between ten and eleven hundred; of these, the medical department has three hundred and fifty, the law department not far from three hundred, and the balance are divided between the literary and scientific departments.

With the medical department we have at present alone to do.

The Medical College is an enormous pile, containing two large, well-ventilated halls (anatomical and chemical), ample dissecting and clinical rooms, and spacious museums abundantly supplied and admirably kept.

Each session occupies six months, four lectures being given daily, besides several hours each week devoted to clinics. One

half of each day is given up to practical anatomy and analytical chemistry.

The extent to which the students devote themselves to dissections may be inferred from the fact that *ninety* subjects will be used during the present session.

The demonstrator of anatomy, Dr. Frothingham, devotes half of each day to superintending the work of the dissectors.

The chair of Anatomy is most ably filled by Prof. C. L. Ford, who teaches, in the main, topographically like our friend Prof. Sands of your city, only that Dr. Ford does all his own dissecting largely in the presence of the class, and with such rapidity and dexterity as to delight all who witness his manipulations. It is needless to say that he inspires the utmost enthusiasm among his classes.

Practical analytical chemistry is fully insisted on, and a working laboratory course is made the *sine qua non* of graduation.

Seventy working-tables, with the necessary apparatus, in a large laboratory in a building by itself, are provided, where classes work five afternoons in the week. Prof. S. H. Douglass, an accomplished chemist, has charge of this department.

The chair of Materia Medica met with a great loss in the resignation of Prof. Armor, but the chair is now efficiently filled by Dr. Cheever.

There are certain points of excellence about the medical department of this university which are worthy of imitation. Each professor has a fixed salary, so that he possesses entire independence to act in all matters for the best good of the institution, and it is inexcusable if he does not insist on a high order of attainment for graduation. Another desirable point is that, although the fees are payable in advance to the university treasurer, no student receives his tickets until the close of the session, so that he has no evidence of attendance until he is entitled to it. In addition, a certain number of absences on the part of the student precludes the issue of his tickets.

By the action of the Regents, a university hospital has been established, which is now in successful operation. And it is in contemplation to publish a university medical journal.

Dr. Sager, of the Obstetrical chair, made the Cæsarean section, early in the present session, on a young unmarried woman, rendered necessary by a deformity of the pelvis. The operation was successful, the child being extracted alive, and the patient rallying well from the operation.

She subsequently died from the escape of the lochia into the abdomen, the result of a laceration of the uterine wall at right angles to the line of incision. This occurred after the operation, from the violent contraction of the uterus upon a

small intramural fibroid. The pelvis was found to be deformed to a remarkable extent. The greatest antero-posterior diameter was three-fourths of an inch, while the smallest (on the right side) would barely admit the tip of the finger. The transverse diameter was in the vicinity of three inches. The details of this most interesting case will be reported in due time.

Prof. A. B. Palmer, the able occupant of the department of practice, has recently received the same appointment in the Medical School of Maine.

Trusting that these details may not be entirely devoid of interest, I have the honor to be, Mr. Editor,

Your friend and servant,

A. B. CROSBY, M. D.

DIFFERENTIAL DIAGNOSIS IN DISEASE OF THE SPINE.

Editor of the New York Medical Journal:

SIR: Absence from the city during the month of August, and constant occupation since, have prevented my noticing Dr. David Prince's *critique* on my paper in the May number of the JOURNAL, and my attention was only recently called to it.

It is of no consequence whatever whether or not "I was the first person who called attention to this diagnostic sign"—*pain* in the abdomen—of disease of the vertebræ, though that may be the case, notwithstanding the quotation from Copeland to the contrary—for Copeland is avowedly describing the symptoms of "commencing paralysis." It is not Copeland, but Dr. Prince who has confounded these two classes of symptoms. They are as different and as easily distinguished from one another as possible.

The differentiation is this: In "commencing paralysis" it is "surprising how very easily it may be detected when attention is called to it." "It is sometimes described as an oppression in breathing, tightness of the stomach, *a band tied around the belly*, torpor of the abdomen, and by other expressions of different patients," etc., etc., but nowhere does he call it *pain*. Now, I was speaking of a *pain* in the abdomen as one of the characteristic symptoms which attend the *inception* of the disease. The peculiarity of this pain is its paroxysmal quality, occurring with more or less violence, and suddenly passing entirely away for hours and sometimes for days, while the symptoms attending "commencing paralysis" are constant. Again, they are peculiarly local and circumscribed—a mere point often—and never like a "band tied around the belly." It is not "a sense of uneasiness and constriction over the region of the stomach and liver," as in "commencing paral-

ysis," but a sharp, generally transient, lancinating, *local* pain. It often occurs so long before disease of the spine is suspected that the latter is not thought of, and when later the spine is found to be diseased, these important early diagnostic symptoms have been forgotten. It is to keep them before the profession till they become associated in the minds of medical men with the grave disease they preshadow or rather indicate, that I reply to Dr. Prince's criticism, by setting him right in his symptomatology. These paroxysmal pains are probably muscular but *reflex action* instead of direct paralyzation, as is the case in "commencing paralysis." Dr. Benjamin Lee has shown¹ that disease of the bones involving *cartilage* is everywhere characterized by muscular spasm, instancing morbus coxarius and other joint-diseases, and he appropriately denominates so-called Pott's disease of the spine *arthro-chondritis*. I may add, as a final proof of Dr. Prince's error, that the symptoms of "commencing paralysis" often terminate in increased or total paralysis, while the *pains* I refer to never have such a termination, but for the most part pass off in the earlier stages of the disease, though that is not always the case. But they certainly may coexist with all the symptoms of "commencing paralysis."

Out of one hundred and forty-seven cases recorded from the 1st of November, 1868, to this time (1st of November, 1869), eighty-six had this local pain as a prominent early symptom, and many of these cases came so long after the inception of the disease, that no accurate history could be had. Of these one hundred and forty-seven cases, barely twelve had paralysis, and in very few cases—I do not now remember how many—did it occur in the beginning of the disease; though I have seen, first and last, many cases where the paralysis did occur very early, as remarked by Copeland.

Pardon me, Mr. Editor, if I dwell with earnestness upon this subject of early diagnosis in disease of the spine; but I daily feel an increased sense of its importance. The last three cases applying for advice were children of three, four and a half, and six years old respectively, with every constitutional symptom, including pains in the abdominal region, together with the characteristic walk and lateral deviation, etc., etc. But in neither case did the attending physician suspect any disease of the spine, and the parents had been assured that the "indigestion" would soon pass away, and the peculiar attitude and walk were only "habits" of childhood. But in each case an examination revealed commencing deformity of the spinal column. These last three can probably still be cured, though nine cases out of ten apply too late, while an equal proportion

could be cured if the disease were early recognized, and proper treatment were promptly resorted to.

CHARLES F. TAYLOR, M. D.

ON SUBCUTANEOUS INJECTION OF BUBO.—Dr. Wertheim, attached to the syphilitic and skin department of the Rudolf Hospital, Vienna, states that he has given up all attempts at dispersing buboes by causing their absorption, and now treats them by a very simple and efficacious procedure, subcutaneous injection. A solution of various substances, as morphia, camphor, sulphate of copper, etc., may be used as circumstances require, that of muriate of morphia (gr. iv ad aquæ 3 ij) being that which is usually preferable. The ripe abscess is punctured by means of a thick needle, or the tube of a strong Pravaz syringe, and, after most of the pus has been gently pressed out, the injection of eight or ten drops of the solution is practised, the patient being taught himself to empty every three hours the fluid that may have collected. The injection is at first repeated daily, and afterward at longer intervals. Although not essential, it is better for the patient to keep in bed. The advantages of the method are, that the pain in the abscess almost immediately ceases, and the other inflammatory symptoms steadily diminish; the thickened pus is gradually transformed into a thinner and thinner exudation, gradually decreasing in quantity, so that in three or four weeks it ceases entirely, and no cicatrix remains. The secretion of pus is confined to the spot, and the surrounding induration gradually diminishes.—*Wien Med. Wochenschrift* and *Medico-Chirurgical Review*.

CHLOROFORM AGAIN.—We fear we may weary our readers with our incessant returning to this subject, but the following extract from Dr. Howe's Report on Surgery, to the New Hampshire State Medical Society, is so pointed that we feel it a duty to lay it before our readers :

While it has thus been my privilege and my pleasure to congratulate you, Mr. President and Fellows, on the many and solid improvements recently made in our art, and on the readiness and even eagerness with which these have been adopted by the profession, I must lament over the pertinacity with which some of our brethren still cling to the constant employment of an agent which experience has abundantly proved to be but too often a deadly poison, so that the surgeon, whose very presence inspires the sufferer with firm hope of a prolonged life, is too frequently the very harbinger of a speedy death.

You will understand what I mean when I read an extract from a daily paper :

"Died on Christmas-Day, Mrs. J. S., of an overdose of chloroform administered for the opening of a felon contracted in sewing for the poor.

A coroner's jury was summoned to investigate, and they reported that the deceased died through misadventure, from the effects of three drachms of chloroform carefully administered."

Would that this were a solitary case! But the same item has appeared in a hundred papers at various times, with the name and the circumstances only changed. The report of the coroner's inquest might well be stereotyped for constant use in our weekly papers. Yes, every week counts its victim; every week a human being, assured of the perfect safety of chloroform, inhales its upas fumes, and is hurried prematurely to his long account. Yes, chloroform is a *real* upas-tree. This time it is the growth of British soil, and has been transplanted thence to ours. The most eminent British surgeons (approaching from the windward side) keep propping up its inclining trunk. Its balmy odor, say they, "is sweet above all others; come, smell, and be exempt from pain"—in death. Why, as I write these very words, the June number of *The Medical News* is handed me, and glancing at the table of contents I read "Deaths" (not death) "from chloroform," and turning to the page I read as follows:

"Dr. Squibb communicated to the New York Pathological Society a case of death from chloroform. The patient was the wife of a physician, and the mother of eight children. Drs. Hutchinson and Krackowizer advised the removal of an epithelioma of the tongue. Dr. Squibb administered the anæsthetic from a pint bottle containing two ounces of chloroform into which a coil of paper was immersed—the chloroform rising to the top of the coil by capillary attraction. She came readily under the influence of the chloroform, and passed through the intoxicating stage quite rapidly, but, some sensation remaining in the tongue, profound anæsthesia was produced by allowing her to inhale from a napkin. No chloroform was administered during the operation, which was long and difficult, and during all the time her pulse remained good. After the removal of the growth, and just as Dr. K. was about to pass a stitch into the wound, the patient suddenly fainted, and, despite all the efforts that were made for a long time, she never breathed again. It was Dr. Squibb's opinion that the cause of death was a direct poisoning of the nervous centres by the chloroform."

Surely there is no carelessness here. Dr. Squibb, one of the best of chemists, a physician who knows as much about chloroform as any man living, celebrated for making pure anæsthetics, has a lady right under his own eyes, and attributes the death to "direct poisoning of the nervous centres by the chloroform."

Case Second.—"Dr. Finnell exhibited to the same Society a series of specimens consisting of the heart, etc., removed from a little girl six years of age who applied to the New York Eye and Ear Infirmary for treatment of convergent strabismus of the left eye. One drachm of chloroform was given, and then a second. Dr. Delafield proceeded to divide the internal rectus, while the patient was yet not completely under the influence of the anæsthetic. No more was, however, given. The child was quite restless during the operation, and a few moments after it was finished it was discovered that she had ceased to breathe. All the ordinary efforts to restore respiration usually made use of were futile. The time from the commencement of inhalation until death was fifteen minutes."

Then comes the same old account of the *post-mortem* appearances which have been published in magazines and works on pathological anatomy and medical jurisprudence time and time again, which is just as satisfactory as an account of the *post-mortem* appearances of sun-stroke and death by lightning—they don't prevent our being obliged to see the same thing again and again.

This last case reminds me of one of the sad features of these deaths by

chloroform, that they do not all occur during or after prolonged and critical operations, but very often when the anæsthetic has been administered for comparatively trivial purposes, and when very little has been given—such as for extracting teeth, or for operations for remedying slight defects of personal appearance, as in the second case already quoted. In trimming the wick a little, the whole flame was snuffed out, while the lamp of life was nearly full.

Another peculiarly sad feature of such cases is that death comes so unexpectedly, like lightning from a cloudless sky, and as suddenly. The confiding patient, who has been promised speedy relief from suffering, submits herself calmly, yes, joyfully, to the physician's care, goes quietly to sleep, and awakes only in another world. *Iatros* was sent for, but *Atropos* came.

But do circumstances warrant this severity of language? Let us see. In the April number of the journal already quoted from are *three* deaths from chloroform. One that of a chemist of Sheffield who was about to have a piece of diseased bone removed from his leg. The account says "the patient's heart and lungs were examined prior to the use of the chloroform, and the quantity employed was exceptionally small; yet, after inhaling for but three minutes, the heart ceased to beat, and the man was a corpse." Of the two other deaths, one occurred at the Leeds Infirmary, and the other at St. Bartholomew's Hospital. In the February number there are no less than *five* deaths reported from this "invaluable agent," which a recent English work says "has superseded ether." In these five cases, all English, it certainly "superseded" life. In one case it was inhaled to relieve pain in the face, in another for asthma, in a third for amputation, in a fourth for an operation for fistula, and in the fifth to a lady for extracting teeth—in which case the coroner's jury reported that "more than the usual precaution had been taken." In the January number is a lecture by Prof. Billroth, of Vienna, over another sudden death. The professor talks very learnedly about the symptoms of impending collapse, and about the *post-mortem* appearances, and about individual idiosyncrasies. He says "people die suddenly and unaccountably from tetanus or erysipelas after surgical operations;" all of which is a poor consolation to the relatives of the dead man, and no better reasoning than if he had said "people die natural deaths sometimes; therefore, let us kill somebody." He acknowledges the danger attending the use of his favorite anæsthetic, when he advises his pupils never to administer it alone, but by all means to have at least one assistant with them," and when he gives explicit direction about artificial respiration and tracheotomy, and galvanism. But he says not one word about ether except this: "The singular idea that a mixture of chloroform and ether is less dangerous than either of these substances used separately has been abandoned."

Here are eleven cases reported this year in six months in one medical journal. If we examine the same for 1868, we shall find fourteen cases, and in 1867, twelve, thus making thirty-seven deaths from chloroform reported in one small medical journal in two and a half years.

I set out with the intention of making a complete table of all the reported deaths from chloroform in the last five years, but I feel sick enough at heart already. Surely here are statistics enough whereon to base reliable conclusions. And does anybody believe that all the accidents from this agent find their reluctant way into our periodicals? The editor of the *Lancet* reports two deaths, the particulars of which he learned accidentally in private conversation. M. Barrier, of Lyons, states that "five deaths have occurred there to his knowledge, and only one case has been reported." No, no; the surgeons under whose observation these terrible calamities happen are far from anxious to see their names in print in such an unfor-

fortunate connection. And, besides these who have died, how many do you suppose there are who have narrowly escaped death, and have had the breath of life restored to them by artificial respiration, and stimulants, and galvanism? I can report three such cases; one where I was holding the deadly weapon myself. The patient came partially out from under the influence of that "perfectly safe mixture" of chloroform and ether, and I poured a little more on the cloth. Only two inspirations were taken when the pulse stopped beating under my finger, and the chest was as quiet as in death. Oh, the agony of those moments, seeming hours, while artificial respiration was being kept up and strong ammonia applied! The anguish of bereaved parents, the coroner's investigation, perhaps blighted professional hopes—how they all rose up before me like a *fata morgana*!

Now, if we turn from all this, and inquire what fatality has attended the use of ether of late years, we learn that there is not one single death attributed directly to it. Here we have complete safety substituted for imminent danger. We can give it without feeling obliged "to have at least one assistant with us," and without feeling ill at ease if the pole of a battery is not applied to the patient's neck ready for instant use. Yes, we can leave it to our patients to inhale themselves, to relieve pain and go to our beds free from all anxiety. Surely, were Sydenham living, he would rank ether side by side with opium as the *magnum Dei donum* to suffering mortals.

Now, what are the arguments employed by those who continue to use chloroform?

1. "It is only *occasionally* fatal."

So is ballooning. But who wants to "go up" either way? Prof. Billroth has seen chloroform administered twelve thousand times, and has lost but one patient by it. But the fatal time came at last. "I have made ten quick trips with that boat," said the owner of a sheet-iron boiler on the Ohio River. "Then thank God for your past good luck," said the Government inspector, "and don't tempt death any longer." Must we all keep giving chloroform till we lose a man? And besides, who wants to be the five-hundredth, or even the twelve-thousandth man to be stricken from life as by a thunderbolt?

2. "Chloroform is more speedy in its effects, and it smells better than ether."

So does prussic acid.

3. "It requires less of it, and it is more portable."

I would rather carry around a quart of ether than two ounces of chloroform and a bottle of ammonia, and a powerful galvanic battery.

4. "It produces less nausea."

But it kills!

A beautiful monument has been erected in the Public Garden in Boston, in commemoration of the most precious of modern discoveries, ether, and I would humbly suggest that there be erected over against it one of black marble in memory of the victims of chloroform. The names of the deceased could not all be inscribed on it in very large letters, but the initials might be. On the pedestal let there be an Englishman dying. With one hand let him tightly clutch a bottle of chloroform, and with the other let him be "throwing up the sponge."

True, ether has an unpleasant odor, and it frequently nauseates, and it is more inconvenient for us to administer it; but all these objections sink into utter insignificance when we merely mention the paramount fact that it is *safer* than chloroform. I do not wonder that John Bull should stick to chloroform so pertinaciously, for it is a child of his own, and the next best to ours; but why we should adopt a child who will let death into our houses while we are sound asleep surpasses my comprehension.

I very much doubt whether Providence will ever vouchsafe us an anæsthetic, the use of which will be unattended with inconvenience. There are obvious objections to it—such as the temptation to immoderate use of it. Men would drown in its fumes the remembrance of their sins. A *perfect* anæsthetic, “a *sweet*, oblivious antidote,” a real nepenthe, will not probably be discovered in this world. We shall only find it when we pluck “the leaves of the tree of life.” But we will strive for it as we do after moral perfection.—*Boston Medical and Surgical Journal*.

DEATH FROM CHLOROFORM.—On Wednesday, November 10th, an inquest was held in the hall of Lincoln College, Oxford, on the body of Mr. Herbert Hildyard Clark, aged nineteen, commoner of that college; Mr. F. Symonds, surgeon, attended and assisted in the investigation. Mr. George C. Hitchings, who was the deceased's ordinary medical adviser, and who had administered the chloroform that caused death, said that he had practised as a surgeon in Oxford for twenty-five years, being a member of the Royal College of Surgeons. Deceased had occasion to have a surgical operation performed, which he would not submit to without chloroform. Witness called on him on Tuesday morning and examined him, to ascertain if its use would be safe, and on the same afternoon, about a quarter to three o'clock, he proceeded, in company with Mr. Hitchcock, chemist, of High Street, to perform the operation, and administered two drachms of chloroform on wool in a handkerchief. The deceased soon passed into the first stage of excitement, standing up after the chloroform had been administered. Mr. Hitchcock held him, and in another half-minute he dropped to the ground insensible. The deceased was laid in a reclining position in the chair he had been sitting in, when his breathing and pulse were natural, although quickened, as might have been expected. Witness then performed the operation, which could not in the ordinary way have caused death, although very painful. The chloroform was not again applied, although Mr. Hitchcock held it near deceased, whose pulse suddenly subsided, and extreme pallor came over him. Witness gave him some sherry, and tried other means to rouse him, which had no effect. He then became alarmed, and sent for Dr. Jackson, but on the arrival of that gentleman the patient had expired. Witness used every precaution in his power, and could not account for the death of the deceased. Dr. Jackson, of the University of Oxford, deposed to being called in when deceased had expired. His testimony was to the effect that Mr. Hitchings had administered the chloroform in a proper manner. Mr. Charles Hitchcock, member of the Pharmaceutical Society, confirmed the evidence of Mr. Hitchings. The jury having expressed a unanimous wish to have a *post-mortem* examination, the inquiry was adjourned from two o'clock until four,

when Mr. John Briscoe, surgeon, stated that the deceased had an enlarged heart with thin muscular walls. He considered that death was caused by the action of chloroform on a weak heart. He did not consider it prudent to give chloroform without a competent assistant being present. In the majority of cases he did not think it necessary to make any special examination of the heart before giving chloroform. The jury gave the following verdict: "That Herbert Hildyard Clark died from the action of chloroform on a diseased heart. The chloroform appears to have been administered with due care and skill."—*The Druggist*.

A MAN named Shakey, aged fifty-six, an inmate of the General Hospital, Jersey, died in consequence of drinking chloroform. From the evidence of the head nurse, it appeared that he had in his possession a bottle of chloroform, and was asked by the deceased if it contained gin, he replied that it did not, but that "it contained stuff to send people asleep," and gave him the bottle to smell at. Shakey took the bottle, but, instead of smelling at it, drank about a tablespoonful; he afterward became very sleepy; various means were used by the nurse to restore him, but he died in about three hours after swallowing the chloroform. Dr. Godfrey said that no doubt the small quantity of chloroform proved fatal. He had read recently of the case of a person drinking half a pint without death ensuing.—*The Druggist*.

DEATHS FROM CHLOROFORM.—The *Australian Medical Gazette* relates the case of a man who died at Owen's Hospital from chloroform. He was 25 years of age, and took the chloroform previous to undergoing amputation of the finger. Only a small quantity of the agent was used. On examination after death, the heart was found to be in a state of fatty degeneration, and the spleen was ruptured. A considerable quantity of blood was found in the peritonæum. The *Gazette* remarks that several cases of death from chloroform have recently occurred, in all of which fatty degeneration of the heart was found, though it was not discoverable before death.—*Med. Times and Gazette*, Sept. 18, 1869.

A DEATH from chloroform is reported from the Hanley Infirmary. The newspapers report that there were fatty degeneration and enlargement of the heart, and that "matter" was present on the surface of the brain.—*Med. Times and Gazette*, Sept. 18, 1869.

THE *British Medical Journal* for October 2, 1869, con-

tains the following report of a death from chloroform, which occurred at the Croydon Hospital, September 15th last :

C. F., a married woman, aged 52, was admitted on August 28th. Just previously she had lost a large quantity of blood. Upon examination, it was found that she had on each ligamentum patellæ a tumor of the size of a large orange. From the history of the case, which dates many years back, they evidently had been inflamed bursæ, the contents of which had gradually become solid from fibrinous deposit. The one on the right knee was ruptured from a blow ; this was the cause of the loss of blood. Perfect rest in bed, with the heel raised, and cotton steeped in styptic colloid applied to the wound, was the treatment pursued. The case was well watched from this time up to Thursday, September 9th, when fluctuation was felt above the original wound. The parts sloughed, and emitted a most offensive sanious discharge. On Sunday, September 12th, there was a return of hæmorrhage, but inconsiderable in amount. To cleanse the wound and stop the unhealthy ulcerative process, it was resolved to apply nitric acid to the wound ; and chloroform was administered for that purpose on Wednesday, September 15th. Dr. Skinner's apparatus was used, and the drop bottle, which, by inversion, holds about half a drachm. This was replenished three times. Altogether two drachms of chloroform was the quantity inhaled. From three to four minutes elapsed before the stage of excitement came on, which lasted three minutes longer. There was no third stage of complete insensibility, such as usually occurs, for the proper performance of a surgical operation ; but she died instantly, without the slightest warning, immediately after muscular action. Marshall Hall's method, the Sylvester method, and galvanism, were severally had recourse to. The last gave some slight hope of benefit, as the arms were raised, and the hands applied to the mouth ; and the diaphragm acted twice, with two corresponding acts of inspiration. But this did not continue ; and further efforts at resuscitation were, with regret, abandoned. No *post-mortem* examination was allowed.

IN this matter of deaths from the use of chloroform, the *Medical News and Library* for December, 1869, says :

During the year we have recorded in this journal twenty-five cases of death from chloroform. Commentary upon these figures is unnecessary. Remembering the comparatively insignificant number of alleged deaths from the inhalation of ether recorded since its introduction to the present time, and that there is not one of these " which cannot be explained on

some other ground equally plausible" (Rep. of Ether Comm. of Bost. Soc. for Med. Improvement; Extracts from Record, vol. iv., Supplement, p. 216)—a statement undoubtedly not true as regards chloroform—we must indorse Prof. Stillé's remark (Mat. Med. and Therap., vol. ii., p. 115, 3d ed.), that "the surgeon who employs it (chloroform) assumes a responsibility of life and death for which neither his office nor the moral law affords him any license."

THE INFLUENCE OF CHLOROFORM IN PROMOTING CUTANEOUS ABSORPTION.—Dr. Augustus Waller, of Geneva, Switzerland, sums up a valuable paper on this subject (*Practitioner*, December, 1869) with the following conclusions :

1. Chloroformic solutions applied to the skin of man and animals are quickly absorbed, and produce local and general results, according to the substances employed.

2. Alcoholic and aqueous solutions are either not at all, or very slowly, absorbed.

3. Chloroform easily traverses the dead skin by diffusion.

4. Alcohol does not traverse the skin, but produces an endosmotic current with water.

5. Skin exposed to chloroform in a state of liquid or vapor absorbs a considerable quantity of it.

6. On traversing the septal skin of the endosmometer, chloroform carries with it a certain amount of any alkaloid dissolved in it.

7. These observations sufficiently explain the rapidity of cutaneous absorption during life, without our having recourse to any problematic influence of sebaceous matter on the surface of the skin.

ETHER AS A STIMULANT SEDATIVE—THE EXPERIENCE OF AN EMINENT JUDGE.—By the kindness of Sir James Alderson, President of the College of Physicians, we have been put in possession of the following facts. They were recently communicated to Sir James by Sir Frederick Pollock, late Chief Baron of the Exchequer, who has been good enough to desire us to publish them :

The long and arduous legal career of Sir Frederick Pollock is too well known to require more than a passing reference ; it may be stated here, however, that he always combined with his proper legal studies and duties a large amount of literary, and especially of scientific, reading. A more active and continuous devotion of life to intellectual work has rarely been practised by any one. Favored with an almost absolutely unbroken health, Sir F. Pollock has reached the

great age of 86, yet still retains his mental energy and activity; while as regards physical status, with the exception of the inevitable decline of muscular energy, he at present scarcely betrays his age in any noticeable manner. About six years ago, however, he was led to adopt ether-inhalation by the occurrence of symptoms which, though not dangerous, were annoying, and had a chronic depressing tendency. Besides a certain amount of indefinable nervous *malaise*, he suffered specifically from gastric flatulence and painful spasm, occurring almost constantly during meals. His attention was drawn to the possibility of getting relief from these inconveniences by taking some stimulant-narcotic, and he remarks, in one of his notes, that many elderly persons, who have lived intellectually laborious lives, have taken to the use of tobacco, or of opium, with a view to assuaging sleeplessness, and other nervous troubles which are very common at that period of life. Both tobacco and opium, however, disagree with Sir F. Pollock, or at least fail to produce the required effect. He, therefore, made experiments with the best rectified ether, which he inhaled from an ordinary bottle applied to one nostril; and it soon became apparent that a few whiffs, taken in this manner, were sufficient at once to quiet spasm and pain, and to induce a general tranquillity of the nervous system. It is needless to say that only very small quantities of ether can enter the blood in such inhalations as are now described, since not only does much escape at once into the air, but of that which is actually breathed a large proportion is simply expired again without being absorbed; and the smallness of the dose physiologically appropriated is sufficiently proved by the fact that true anæsthetic phenomena are never produced. At most, when several strong whiffs have been taken continuously, especially if the temperature of the ether has been raised by holding the bottle a long time in the hand, a dizziness has been produced—just enough to amount to slight vertigo when the standing posture has been attempted; but on careful inquiry it does not appear that this degree of etherization is necessary for the relief of the uncomfortable sensations on account of which the practice was originally adopted. So far from consciousness being disturbed or clouded by the use of the ordinary small doses of the vapor, it would seem that the intellect is both tranquillized and fortified by them. They fail to produce the least numbness of peripheral sensory nerves. Nor do they at all *compel* sleep; although, by removing nervous irritability, they evidently favor its occurrence when it would otherwise be difficult to procure.

The practice of ether-inhalation, as above described, has been steadily continued by Sir F. Pollock up to the present

time, and the general facts observable are the following: Both his physical and mental health may be called magnificent, considering his advanced years. The pulse is regular and firm, of medium tension, and keeps very nearly to the standard of eighty; it does not appear to vary materially either during or after an inhalation. Not merely can gastric spasm and flatulence be relieved with the same instantaneous certainty as at first, but the tendency to such affections has evidently and notably diminished. Sleep is obtained, at intervals, to the amount of, perhaps, eleven hours out of the twenty-four, including a regular mid-day *siesta*. As is common in advanced age, not much solid food is taken; but a moderate amount of alcoholic liquids (brandy and sherry) is consumed, in small doses. The appetite for solids is visibly diminished when any considerable amount of ether has been inhaled shortly before a meal. There is not the smallest impairment of muscular coördination proper; and in regard to this, it may be mentioned that the handwriting is singularly vigorous and perfect. So free are the muscles from tremor that till quite lately Sir Frederick could balance a full wineglass on the backs of his closed fingers and lift it to his lips without spilling; and even now the hand can be held out for a long time without a visible shake. At present the inhalations are very frequently taken, and a variable quantity of ether, amounting sometimes to several ounces in a day, is used; but, of course, it is impossible to calculate how much of this enters the blood. We may conclude this detail of the facts observed by stating that a few extra whiffs, of exceptional vigor, produce slight flushing of the face, and a feeling of fulness in the nasal mucous membrane.

[Upon the facts of the above very interesting case we shall base a few remarks on the use of stimulants in the nervous *malaise* from which aged persons so frequently suffer. It is rather singular that more detailed and specific consideration has not been given, in medical treatises, to the management of the very troublesome neuroses of old age. Not to mention the severe and intractable neuralgias which occasionally make the last years of a long life miserable, there are minor nervous evils which more commonly beset the aged. The majority of very old people find it difficult or impossible to sleep continuously for any considerable length of time; and though, doubtless, this is of the less consequence because but little muscular exercise is taken, yet it is often distressing, and by its mental no less than its directly physical effects tends to unhinge the nervous system and to destroy the calm of life. Spasmodic affections of the stomach and intestines also frequently cause great misery to old persons, and inflict further mischief

by rendering the problem of their nutrition more difficult. It seems to us that for these troubles, which are so often spoken of as inevitable, the aged have a right to ask relief; and, what is more important, they are generally pretty sure to attempt to get it. By coarse-fibred or uneducated persons, more especially, the relief may be sought in alcohol; and, under the idea that one cannot have too much of a good thing, the sufferer may contract habits of sottish excess. We have so recently proclaimed, however, our decided objection to the use of alcohol for the relief of the nervous miseries of adolescent and of middle life, that we may venture, without fear of being misunderstood, to say here that we have much less objection to the use of alcohol as a sedative in old age than during any portion of the time in which the disturbing influence of the *sexual* functions is felt by the organism; for it does not present a tithe of the seductions to excess in the former case which it does in the self-conscious condition of the organism which exists during sexual life. Still, one would prefer to be armed with a better weapon against the miseries of old age. Tobacco has the two great defects that women cannot use it, and that elderly men, if they have not smoked before, often fail to take to it comfortably at an advanced age. Opium is probably suitable to a considerable number of elderly persons, and an interesting point in medical morals is the extent to which its use, as a mere solace of life, should be deliberately permitted to the aged. For our own part, we entertain a strong opinion that the commonplace morality which is usually talked nowadays, on this subject, is both false and cruel. No one is more keenly alive than ourselves to the evils of narcotic indulgence (i. e., for the mere relief of trivial nervous discomfort) during the active period of life. But, upon what principle it can possibly be wrong to soothe the declining days of those who have already fought the battle of life, we are at a loss to imagine. It is needless to remark that with many aged persons opium is found to disagree, disordering their digestion and impairing their nutrition; and this really is a fatal objection, where it exists. But why it should be wrong for a nervous and irritable old person, still less for one liable to stomach-cramps, to take a daily allowance of laudanum, which has been found to make his life happy, we cannot conceive. The stock argument, of course, is that this and similar things muddle the intellect at a time when a calm retrospect of life ought to be taken, and the approach of death prepared for. But this involves an assumption of the very question at issue: for it may be with much reason maintained that the effects are the very opposite of this, and that by quieting nervous perturbation and worry we do, in reality, clarify the mind. And the fact

is, that elderly people have less difficulty than others in confining the dose of narcotic stimulants strictly or nearly strictly *within stimulant limits*, and, hence one great objection to its use in earlier life does not apply here.

Still, there are social reasons which make it desirable to search for a better stimulant wherewith to soothe the nervous system of the aged than either alcohol, tobacco, or opium. We confess to a prejudice in favor of some agent which should be inhaled rather than one which should be drunk; but the number of substances which could be safely inhaled without the presence of a medical man is very limited. Neither chloroform, nor any of its substitutes except ether, would be reasonably safe. The latter drug, however, inhaled in the manner described by Sir F. Pollock, is free from all danger to life, and can very easily be kept down to the production of its purely stimulant effects. We have not personally had much experience of the inhalation of these very small doses of ether; but we have very often experimented on ourselves with small quantities taken by the stomach, and can report that the effect of these upon the nervous system is not in the slightest degree depressing, but tranquillizes only by stimulating, and thus steadying the nerves. There is no temptation to take ether by the mouth, however, as it is disgustingly nasty; and this is a real advantage. Nor is it likely to be taken in any large excess by the kind of inhalation above described, as its smell is only tolerable, and by no means attractive. Without, then, expressing any positive opinion on the matter, it appears decidedly worth inquiring whether ether-inhalation might not be advantageously recommended to a large class of aged persons, who would scarcely call themselves patients at all, but to whom "the grasshopper is a burden," from the irritable state of their decaying nervous systems. It used to be a maxim of medicine, that the physician is as much bound to promote the euthanasia of the sick when they *must* die, as he is to save their lives if that be possible. And surely the phrase euthanasia may be reasonably enlarged, so as to include not merely the management of the illness, which actually cuts off an aged person at last, but the solace of months or years of a continuous decay, which is the visible precursor of death.—*Ed. Practitioner.*

OBITUARY.—Died in Geneva, N. Y., December 3d, Hazard Arnold Potter, M. D. He was born in Potter township, Gates County, December 21, 1811; graduated in medicine at Bowdoin College in 1835; practised his profession a short time in Rhode Island, thence went to his native place, where he practised till 1853, when he removed to Geneva. He was,

during the war, surgeon to the 50th New York Volunteers. He was an energetic worker, attained reputation as a surgeon for his successful trephining of the vertebral column, operations for ovariectomy, and method of amputating at the hip-joint. During the last four years, he has been a prominent advocate of temperance, which cause he sustained with characteristic zeal. The immediate occasion of his death was inflammation of the lungs.—*Buffalo Medical and Surgical Journal*, December, 1869.

CLINICAL FACTS IN REFERENCE TO CHOREA.—Prof. Steiner [Der praktische Arzt., November 9, 1869] maintains that chorea must be regarded as originating in spinal irritation, which may be occasioned by anaemia, by hyperaemia, by serous effusions and extravasations of blood, and lastly by neoplastic formations and organic changes occurring in the spinal cord itself, and in its membranous and osseous coverings. These conditions may be of traumatic origin, or may be consequences of acute rheumatism, or, finally, may result from anomalous processes of growth and development. The professor had opportunities of making *post-mortem* examinations of three choreic subjects. The first resulted from a wound, and he found increase of growth in the connective tissues and an anæmic condition of the spinal cord, the spinal canal containing much serous fluid; in the second case he found a considerable degree of hyperaemia in the meninges and of the substance of the spinal cord, with serous effusion into the canal; and in the third case, which had been the subject of articular rheumatism, he found pericarditis and endocarditis, as well as inflammatory exudation into the canal of the spinal cord.

Anæmia of the spinal cord is the condition which the professor believes to be most frequent, accompanied by certain anomalous processes of growth and development, since in fifty-two cases of the disease the ages of the sufferers were from six to eleven. According to the nature of the changes, the choreic symptoms are slight or severe, unilateral or bilateral, curable or incurable. Among the fifty-two cases forty were female, twelve male. When spinal irritation is already present, the attack of chorea may be induced by psychical causes, as fear, fright, etc., or by certain mechanical causes, as blows, falls, etc. The usual duration of the disease is from four to nine weeks, but relapses are frequent.

In regard to the treatment of the disease, Prof. Steiner holds that chorea in the majority of cases cures itself, though there are other cases which resist every remedial means. Certain remedies, however, ameliorate and shorten

the duration of the disease in the first class of cases. In view of the anæmia so frequently present, Prof. Steiner orders iron, either alone or in combination with oxide of zinc, as in the following prescription: Ferri carbon. saccharati, 2 parts; zinci oxyd. 1-25 part; sacch. alb. 8 parts; M., ft. pulv. t. d. sumen. The diet should be easily digestible and abundant. If, after the employment of the iron for a fortnight, no improvement occurs, the professor resorts to the preparations of arsenic, by which the disease is often quickly and certainly cured, the general nutrition of the body and the appearance being at the same time much improved. He usually commences with one drop *per diem*, and increases the dose after three or four days to two, three, four, and five drops, and then, if improvement have resulted, withdraws the remedy in the same gradual way. Cold water, applied hydropathically, is sometimes very serviceable. If the disease owes its origin to rheumatism, the remedies appropriate to that diathesis must be administered. The subcutaneous injection of arsenicum, sulphur, chloroform, and morphia, furnishes no satisfactory results.—*Practitioner*.

THERE has been an outbreak of small-pox at Providence, R. I. The disease was imported from this city; and, through gross carelessness, if not criminality, it was extensively spread before it was reported to the health authorities. Dr. Snow, the City Registrar, avails himself of this occasion to again impress upon the people the importance, not to say the necessity, of vaccination.

NEW VAGINAL SPECULUM.—At the September meeting of the Philadelphia Obstetrical Society (*American Journal of Obstetrics*, Nov., 1869), Dr. Albert H. Smith presented a new form of vaginal speculum, which had been made at his suggestion by Mr. Kolbé, and which, after considerable use in private and public practice, had fully realized his expectations in giving increased facilities both for diagnosis and treatment over any other speculum that he had used.

It is in form a bivalve, having a double movement, giving a parallel separation of the blades, and also the ordinary angular separation. This double movement was suggested first by Mr. Robert Ellis, of London, and adapted by him to his "new expanding" speculum, described in the *Transactions of the Obstetrical Society of London* for 1867; but this instrument, so far as appears, has not been brought much into use.

Mr. Kolbé recently has made a very neat and simple modification of Ellis's, giving a very useful instrument, as compared with any form of valve speculum previously in use.

Dr. Smith's speculum, adopting this principle of a double movement, is so constructed as to act as a double vaginal retractor, having the blades separate throughout their entire length upon one side, and connected by a square bar upon the opposite side, along which the blades slide with an independent motion. This movement is effected by means of a right-and-left screw placed in front of the bar, and passing through the lower end of the pivot-slides which move upon the bar, and to which are fastened the blades. This right-and-left screw is operated by means of a flat head at one extremity, the turning of which causes both blades to recede uniformly from the centre of the bar, making a parallel separation without any change in the angle of the blades toward each other. The angular movement is effected by the handles of the blades working upon the pivot-joints by which the blades are connected with the bar; and as each blade moves independently of the other, each requires its separate adjustment for retaining it in position; this adjustment being a screw and nut attached at one end to the blade, and the other passing through an eye upon the slide.

By means of this mechanism the vaginal walls can be put upon a stretch uniformly, precisely as with two blades of Sims's duck-bill, applied upon opposite sides of the vagina, with the advantage of being self-retaining.

The instrument, as first constructed and described in the *Medical and Surgical Reporter* for September 11th, had the pivot-slides moving in a slit in the bar, and the right-and-left screw was then placed beneath the bar, and operated by a milled wheel in the centre; but the form described above has since been found to be stronger, neater, and more efficient in power.

The blades are short, being only $3\frac{1}{4}$ inches in length, allowing the cervix to fall forward toward the vulva, entirely within reach of the finger, which condition, with the opening and separation of the blade entirely upon one side, enables the operator to have complete command of the cervix with the finger while the speculum is in position, the vaginal walls being simply kept out of his way, without any interference from the instrument with his manipulations, an advantage which is not found in Ellis's or any other valve speculum having the vulvar aperture a closed ring.

The advantage of this arrangement will be manifest to any one accustomed to use the speculum, even in the most ordinary cases of uterine disease. This speculum is easily introduced,

retains itself without the slightest difficulty, and exposes the cervix to a completeness that no other single self-retaining instrument will do. Thomas's speculum, so much used in New York City, gives an admirable view of the cervix, but requires to be held in position continuously, thus involving either the aid of an assistant or the constant occupation of one hand of the operator. Dr. Smith's speculum may be introduced with the convexity of the blades, either antero-posteriorly or laterally; after introduction of the point toward the sacrum, the angular expansion of the blades enables the operator to find the cervix with little difficulty, when the movement of the screw separates the anterior portion of the blades, putting the walls of the vagina upon a stretch, allowing the cervix to fall forward within easy reach of the finger, which can be brought to bear upon its whole surface as far as the vaginal *cul-de-sac*. The entire openness of one side of the speculum facilitates the digital examination, as well as the investigation of the condition of the vagina, and especially the urethra and adjacent tissues.

In introducing a sponge-tent, so unsatisfactory an operation through any ordinary speculum, great advantage is given from the opportunity of ocular and digital examination, the tent being grasped tightly by the forceps, and directed by the finger in the vagina, without coming in contact with the vaginal moisture. The passage of the uterine sound is rendered much easier than with the speculum of ordinary length, the uterus not being forced upward and backward, and being allowed more of its natural mobility. In ligating or excising a polypus or other growth from the cervix, the advantage of combined sight and touch will be very easily comprehended.

So far in practice the use of this speculum has proved perfectly satisfactory, and, since the change referred to above, no modification seems desirable; every case, from the tense vagina of the unmarried to the relaxed and open vulva of the multiparous woman, being examined with entire facility.

Fig. 1 represents a profile view of the instrument, with the screw mechanism, as last introduced.

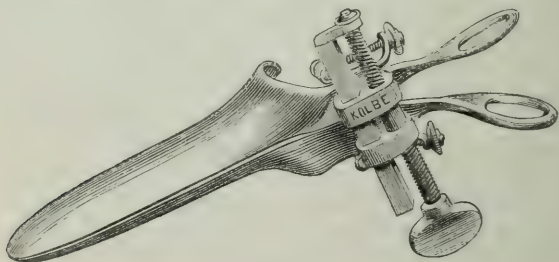


FIG. 1.

Fig. 2 represents a profile view of the instrument as at first described in the *Reporter*.

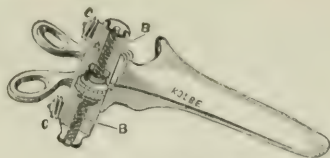


FIG. 2.

Figs. 3 and 4 represent the speculum expanded in the two ways, respectively, of parallel and angular movement, the relations of the blades being the same in both the old and new forms of the speculum.

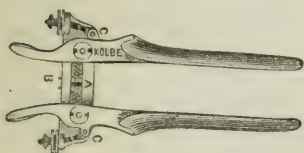


FIG. 3.

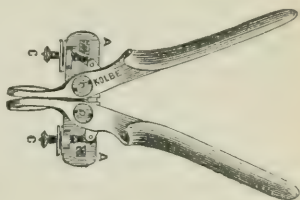


FIG. 4.

INNOCUOUSNESS OF CORALLINE.—Coralline, declared by M. A. Tardieu to be toxic, has found some advocates. A short time ago, M. Landrin made some experiments, whose results were entirely contrary to the conclusions of M. Tardieu. M. P. Guyot, in one of the last meetings at the *Académie des Sciences*, has confirmed the researches of M. Landrin and resolved by experiments the three following questions:

1. Is coralline poisonous when introduced into the animal economy?
2. Is it so when applied upon a fresh wound?
3. Is it so when used in the form of dyed stockings?

Thus coralline, mixed with food, has been given with impunity to cats and dogs, in a quantity large enough to be found in the lungs after they had been killed, and to allow the extraction from those organs, of a sufficient quantity, to dye some stockings.

A dog took by the mouth seventeen grammes (over half an ounce) of it in three days, without presenting any abnormal symptoms. Frogs and leeches did not appear to suffer any when placed in water containing a solution of two grammes of coralline in ten grammes of alcohol. Other animals did not show any bad symptoms after the introduction of coralline in the cellular tissue, or its application upon a wound.

During these experiments, which lasted over two weeks, M. Guyon had his hands dyed with the drug, and experienced none of the accidents observed by M. Tardieu and others. He has dyed for himself some stockings, in coralline, red, and aniline violet, and the use of them has caused no trouble.

From all these experiments, M. Guyon draws the following conclusions:

1. Coralline, even in large doses, is not venomous by injection.

2. It is not venomous when introduced in the blood.

3. It may be used safely in dyes, either alone or mixed with aniline violet, but must be rejected if mixed with toxic substances, like arsenic, etc.

It is to this last agent that M. Guyon thinks was due the accidents spoken of, as arsenic is mixed in yellow coralline and fuchsine, but not in red coralline.—*Lyon Medical*.

PERCHLORATE OF POTASSA IN INTERMITTENT FEVER.—M. Raberteau reported before the *Société de Biologie* the results of his experiments with the *perchlorate* of potassa, which he has employed successfully in intermittent fever. He remarks that an American physician (Dr. De Marmon, of Kingsbridge, N. Y.) has obtained the same results. He has, besides, ascertained upon himself that this substance produces the same effects as the sulphate of quinine. The salt used must be very pure—seventy-five grains of it being equal to twenty grains of quinine.—*Gazette Médicale*.

DECAY OF ERUDITE PHYSICIANS.—Speaking of the seventeenth century, M. Montanier observes: "One feels astonished, almost alarmed, at the erudition exhibited by the men of that period, whether magistrates, advocates, physicians, etc. In our own profession, these erudite and lettered men were very numerous, and we are surprised by the deep and varied knowledge of a Naudé, a Riolan, of a Guy-Patin, and many others. Those even who did not attain this highest reputation were yet men of very great merit, and their vast erudition reflected a ray of brightness over the whole profession. In our own day, truly erudite physicians are indeed rare. Scarcely can one name two or three in Paris, and these may be said, as it were, to make erudition their profession. As to single medical practitioners having a tincture of the history of their art and profession, so few are they that it is doubtful whether they could be counted. In my opinion, this is a sad state of things."—*Medical and Surgical Reporter*.

CENSUS OF THE LUNATICS, IDIOTS, AND CRETINS, OF FRANCE.
—Every five years, the government directs a census to be made, in each commune, of all the individuals affected with either insanity, idiocy, or cretinism. It results, from the statistics thus obtained, that insanity is increasing in a notable degree, and in a proportion greater than the increase of the population.

The following figures will enable us to judge for ourselves: In 1851, the general census had given a total number of 46,257 lunatics, idiots, and cretins.

In 1856, an inquest was ordered, with the object of distinguishing between lunatics, idiots, and cretins; this inquest gives a total of 60,290. In this total, the lunatics alone are represented by 35,021.

In 1861, new precautions were taken, so as to obtain a correct statement of the situation, and the following was found: 42,689 lunatics (7,668 more than in 1856), 41,525 idiots; total, 84,214; that is to say, an increase of 23,924 over the census of 1856.

Finally, at the last census, that of 1867, we have the following figures: 50,786 lunatics (at home and in asylums), or an increase of 8,261 over the census of 1861; 39,953 idiots: total, 90,670, or an increase of 6,465 over 1861.

By comparing these last figures to the population of France, we find that—

In 1861, there were 124 lunatics for every 100,000 inhabitants.

In 1867, 133 lunatics for every 100,000 inhabitants.

In 1861, there were 111 idiots for every 100,000 inhabitants. In 1867, only 105; 6 less.

To sum up, there were in France, in 1861, 1 lunatic, idiot, or cretin, for every 444 inhabitants.

And, in 1867, 1 lunatic, idiot, or cretin, for every 420 inhabitants.

Thus insanity, from various causes, follows a progressive course worthy to deserve public attention.—*L'Indépendance Belge*, Sept. 15, 1869.

At the International Pharmaceutical Congress, held at Vienna, on the 9th and 10th of September, there was but one delegate present from the United States, Mr. Faber, of this city.

The fourth question which came before the Congress for discussion was: "What should be done to effect the greatest possible uniformity in the strength and composition of remedies that are used in all countries?" M. Waldheim, of Vienna,

gave the explanation he had promised at the previous meeting. He stated that the Pharmaceutical Society of Paris was at present engaged in preparing a small work which would contain the remedies most generally used in all countries, and especially the most important and powerful remedies, such as hydrocyanic acid, tincture of opium, Fowler's solution, the mineral acids, etc., etc. The formulæ for the preparation of these medicines would be given according to the principal Pharmacopœias, as, for instance, the English, French, German, etc., and questions would be put as to the reasons for having different forms, and for preferring any one of these to the others. This work would shortly be ready for publication, and would then be sent to the different pharmaceutical corporations with a request that it might be circulated among medical men and pharmacutists, and their remarks made on blank pages with which it would be interleaved. It was anticipated that two objects would be attained by the use of this work. In the first place, it would show at a glance what differences exist in different countries, in medicines having the same or similar names, and dispensers would be enabled to prepare correctly prescriptions written in foreign countries, thus securing to the public the supply of medicines such as the physician intended to prescribe. And then, in the second place, the way would be prepared for the adoption of the most approved formula for each medicine which it might be expected would ultimately supersede the others. M. Waldheim concluded by proposing that the thanks of the Congress be presented to the Société de Pharmacie of Paris, for undertaking this work, and that they be encouraged to proceed with their undertaking and complete the work as soon as possible.

THE PHILOSOPHY OF CATAPLASMS.—The *Journal des Connaissances Médicales* publishes an article, by Dr. Herbert, on a subject which may not be uninteresting to families: viz., cataplasms, those especially which have mustard for their base. The seeds of the black kind, which, in a pulverized state, are used for poultices, owe their properties to a liquid, acid, and volatile substance, being nothing but essence of mustard. This, however, does not exist ready formed in the seed; it is generated by a kind of fermentation, caused by the action of an albuminoid body, called myrosine, which plays the part of leaven, on a peculiarly fermentescible compound, mysonate of potash. This transformation, which has been called *sinapisic*, can only take place by the intervention of water at a temperature higher than freezing-point, and lower than 75° centigrade, those being the usual conditions requisite for producing fermentation. This is a circumstance which is not

commonly taken into account in practice. The generation of essence of mustard diminishes under temperature ranging between 50° and 75° centigrade, and entirely ceases at the latter. Hence, boiling water, or even such that cannot be borne by the hand, will spoil both the poultice and the sinapized foot-bath. Again, alcohol, acids, metallic salts, and any other agents having the power of stopping fermentation or retarding it, are detrimental. Besides the two principles mentioned, through whose joint action the essential oil of mustard is produced, the seeds of this plant contain various others, among which there is a fixed and inactive oil, having some of the properties of that of rapeseed, and which may easily be extracted from mustard-powder, either by strong pressure, or, better still, by acting upon it by lixiviation in sulphuret of carbon. When this oil is extracted, what remains is much more powerful, and will, moreover, keep indefinitely. Many years ago, M. Robinet attempted to bring this mustard-flour, deprived of its fixed oil, into general use; but prejudice and routine proved too strong for him; and it was not until this powder was gummed to paper, then cut into squares, and sold in elegant tin boxes, that it came into fashion. But what every family should keep in mind is this, that mustard-poultices ought not to be made with hot, but lukewarm water.—*The Druggist.*

MEDICAL DEPARTMENT, U. S. ARMY.—The current expenditures of the Medical Department during the fiscal year ending June 30, 1869, were \$233,561.21; the total expenditure of that department, including "war debts" and "refundments," was \$708,305.36, and the available balance on hand at the close of the year was \$1,792,050.73. The health of the troops has been good. Yellow fever has appeared at Key West only, and at this point there were forty-three cases and twenty-one deaths; but, by the prompt removal of the troops to a new station, the ravages of the disease were at once stopped. The total number of cases on the sick list during the year was 104,235. The average number constantly on sick report was 2,367, or about 5.5 per cent. The number of deaths was 548; of discharges for disability, 1,128. The first volume of the "Medical and Surgical History of the War" is being printed. The number of commissioned medical officers for duty on June 30, 1869, was 161, being an average of one medical officer to 204 men. The number of posts was 239, besides detachments and outposts. There are now two vacancies of surgeons and forty-two of assistant surgeons in the medical corps. The experience of the past three years has shown that the present organization of the medical staff is

satisfactory; but that, even were all the vacancies in it filled, it would still be barely adequate to the demands made upon it.—*From Report of the Secretary of War.*

SLEEP-DISEASE.—The *Santé Publique* reports a case of a lady who, when eighteen years old, slept forty days continuously; and when twenty years of age, after being married, slept fifty days. During that period she remained motionless and insensible. She was in such a state of general contraction, that it was necessary to unscrew a pivot-tooth she wore, to introduce into the œsophagus a little beef-tea, her only aliment. Finally, four years afterward, on Easter Sunday, 1862, she was found asleep in the morning, and never awoke until the next spring, in March, 1863. During that time animal life was null, organic life was good, but reduced to its minimum; pulse low, respiration almost insensible; no evacuations; the skin was fair, as well as the *embonpoint*, but complete insensibility and general contraction.

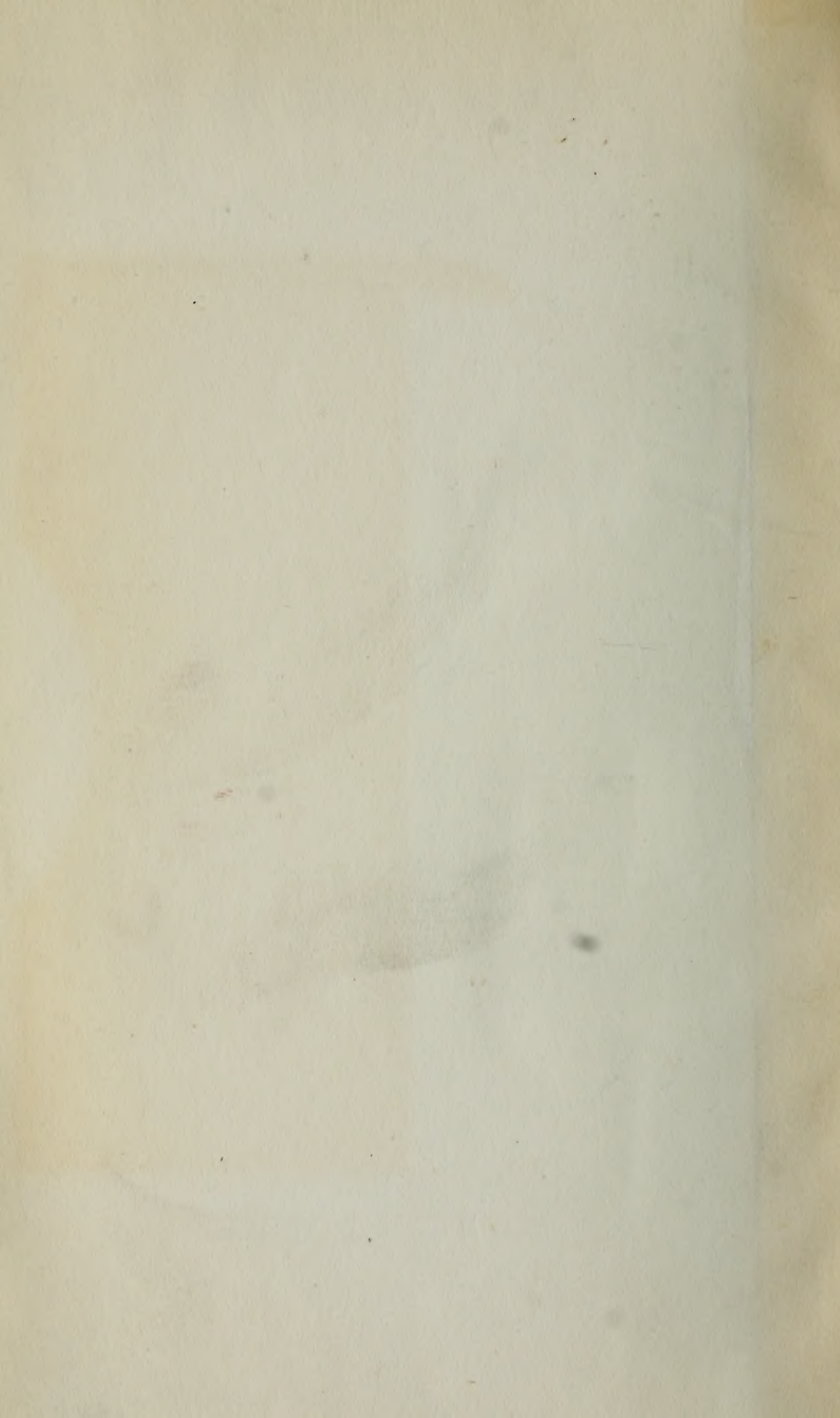
ELECTRICITY IN THE TREATMENT OF HYDROCELE.—In No. 34 of the *Gazette Médicale* (August 22, 1868), M. Scoutteten declares that, by applying upon the scrotum of a patient attacked with hydrocele the negative pole of a galvanic pile composed of two of Bunsen's ordinary elements, he has produced in half an hour the absorption of one hundred grammes (about three ounces and a half) of serosity contained in the *tunica vaginalis*.

It is evident in this case that the action produced was not, strictly speaking, electrolytic. If this fact should be confirmed, there would be, in the use of continued currents, a new therapeutic resource which might be of great value.

ALBANY MEDICAL COLLEGE AND HOSPITAL.—Dr. C. A. Robertson, the author of the criticism on "The Last Illness of Dr. Alden March," which appeared in the January number of this JOURNAL, has been removed from the position of Ophthalmic and Aural Surgeon in the Albany City Hospital, by a unanimous vote of its Board of Governors. His name has also been stricken from the list of lecturers in the Albany Medical College by the faculty of the institution.

It is not stated whether this action has any connection with the publication by Dr. Robertson of the criticism above referred to.





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